	NANYANG JUNIOR COLLEGE
	2021 JC2 Preliminary Examination H2 ECONOMICS

Paper No: 9757/01

1st September 2021
Wednesday

Time : 1400 – 1615 hrs
Duration : 2 hours 15 minutes

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.

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

There are 7 printed pages including this cover page.

Answer all questions

Question 1: The on-going dilemma with the miracle ingredient – Palm oil

Extract 1: How the world got hooked on palm oil

Palm oil's world domination is the result of it being able to replace less healthy fats in foods in the west, a cheap replacement of more expensive oils in home and personal care products and growing affluence in Asian countries where people consumed more fat, much of it in the form of palm oil.

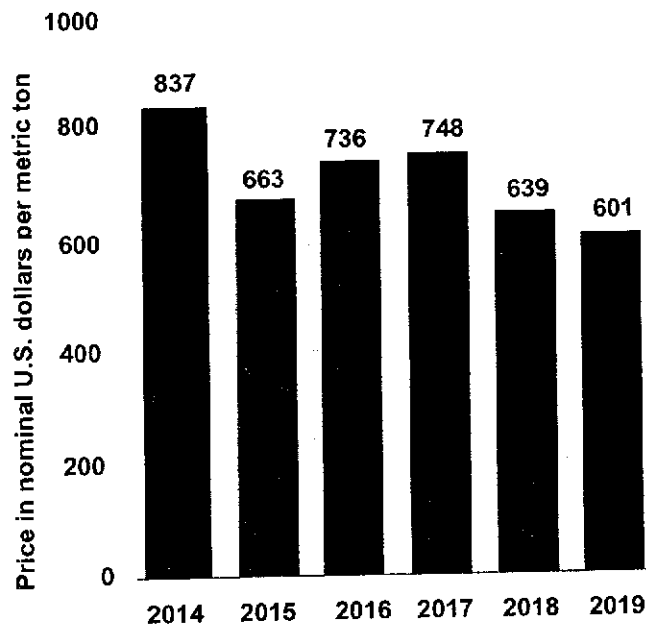
The worldwide production of palm oil is high as palm trees are perennial and evergreen which enables them to be grown year-round. In addition, the combination of favourable weather and increased fertilizer use have further contributed to the production of palm oil. Between 1995 and 2015, annual production quadrupled, from 15.2m tonnes to 62.6m tonnes. By 2050, it is expected to quadruple again, reaching 240m tonnes.

Though palm oil has many benefits, it has brought about several environmental issues which has put governments and businesses under pressure to find alternatives to palm oil. However, replacing a miracle product is not easy for example, food giant; General Mills has encountered trouble replacing palm oil in its products given its very unique physical performance characteristics that are highly challenging to duplicate.

It's clear that for now, palm oil isn't going anywhere. It's nearly impossible to avoid, and just as difficult to replace.

Source: Adapted from The Guardian, 19 Feb 2019 and BBC, 14 Jan 2020

**Figure 1: Average prices for palm oil worldwide from 2014 to 2019
(in nominal U.S. dollars per mt)**



Source: World Bank, accessed 30 May 2021

Extract 2: Tackling Indonesia's poverty with palm oil

Indonesia, the world's fourth most populous nation, and 10th largest economy in terms of purchasing power parity, has made enormous gains in poverty reduction – cutting the poverty rate by more than half since 1999, to 9.78 percent in 2020.

The palm oil industry has helped lift millions of people out of poverty, both in Indonesia and Malaysia, which together account for around 85 percent of global production. Oil palm plantations have created millions of well-paying jobs and enabled tens of thousands of smallholder farmers to own their own land. In 2019, it was estimated that the palm oil industry had succeeded in lifting 2.6 million rural Indonesians out of poverty. While at the regional level, contracts between smallholder palm oil farmers and private or state-owned companies significantly contributed to the regional economy especially at the village level in the form of infrastructure built. This not only benefited contract farmers but also non-contract farmers as well.

However, the lack of enforcement capacity by the labour authorities in Indonesia and the remote location of many plantations have contributed to child labour in the palm oil sector.

Source: Adapted from The ASEAN Post, 16 February 2021

Extract 3: The global demand for palm oil is driving the fires in Indonesia

The forests are burned deliberately by palm oil producers each year to create palm oil plantations, but this year's burns are especially destructive due to drier conditions that are causing the fires to burn out of control. Between 2001 and 2018, Indonesia lost 16% of its tree cover, or nearly 26 million hectares of forest. The loss of those forests released the equivalent of about 10.5 gigatons of carbon dioxide emissions.

A recent government audit of plantations found that more than 80% of palm oil plantations in the country are failing to comply with regulations. The audit began after smoke from the annual fires in 2015 was so bad that it sickened hundreds of thousands of people. In addition, the smoke reduced visibility to the extent that airplanes were unable to land hence causing the closure of airports in Indonesia.

Source: Adapted from Quartz, 18 September 2019

Extract 4: Who gets to define sustainable palm oil?

In 2020, Indonesia produced 59% of the world's palm oil.

Palm oil is an important source of economic growth and livelihood in Indonesia. But it has also been associated with environmental degradation and human rights abuses. As a response to growing consumer awareness of these issues in the US and Europe, in 2004, the World Wildlife Fund (WWF), Malaysian Palm Oil Association and a few multinational companies including Unilever started the Roundtable on Sustainable Palm Oil (RSPO), a voluntary initiative that promotes sustainable production of the commodity through certification schemes and standards.

Indonesia initiated its own national certification scheme, the Indonesian Sustainable Palm Oil (ISPO) certification in 2011. In 2014, Indonesia made ISPO certification mandatory for all producers other than smallholder farmer. The final aim was to make certification mandatory for smallholders.

Palm oil producers who obtained the ISPO certification by complying with requirements such as legality, environmental accountability, social responsibility and business practices etc... are most

likely to benefit from increased sales and revenue as many large global firms such as PepsiCo, Nestle, Unilever etc... have committed to procuring only sustainable palm oil. ISPO certification gives such buyers assurance that:

1. The palm oil are produced legally
2. Palm oil producers have the requisite permits
3. Palm oil producers have followed certain environmental, labour and social standards

By the end of 2020, the Indonesian Palm Oil Association issued 682 certificates covering a total of 3.78 million hectares of land or 27% of Indonesia's planted palm oil area.

The biggest challenge to "full national coverage" comes from smallholder farmers who manage roughly 40% of Indonesia's oil palm-planted areas. Their per hectare yield can be 50% lower than that of large-scale commercial farms because of lack of access to high-quality agricultural inputs such as fertilisers, while incomplete and inefficient harvesting also play a role. Their response to the yield gap is to cut down forest to plant more palm trees. While rolling out certification schemes, helping smallholders to boost their per hectare yield on existing land is a crucial step toward sustainability.

Low education and income are often barriers for smallholder farmers to certify their palm oil. Land ownership is another hurdle. ISPO requires proper record of land ownership as a prerequisite for certification, a condition that many multi-generational smallholder farmers often cannot meet. As of October 2020, only 0.21% of oil palm planted areas controlled by smallholders were ISPO-certified.

"Indonesia is too big. Its palm oil is produced in so many different areas, which makes certification more difficult," said Robert Hii who runs CSPO Watch, an independent industry monitoring website. He added, "As Indonesia consumes 30-35% of its own palm oil, so the motivation to get certification is low. What Indonesia says is we have enough certified palm oil to satisfy the European and US market, why do we need to certify the rest?"

Source: Adapted from China Dialogue, 4 June 2021

Questions

- (a) (i) From Figure 1, identify the trend in average prices for palm oil worldwide from 2014 to 2019. [1]
- (ii) Using a diagram and Extract 1, explain the trend in average prices for palm oil worldwide identified in (a)(i). [4]
- (b) Using elasticity concept, explain the expected impact of the trend in price of palm oil identified in (a)(i) on the total revenue of palm oil producers. [3]
- (c) (i) Explain why there is a need for government intervention in the market for palm oil. [4]
- (ii) Discuss whether ISPO certification is the most effective strategy in achieving allocative efficiency in the Indonesian market for palm oil. [8]
- (d) To what extent would the changes in palm oil industry likely to lead to changes in the standard of living of people in Indonesia. [10]

[Total: 30]

Question 2: The Quest for Inclusive Growth

Extract 5: How does income inequality affect our lives?

Inequality can take different forms. If there are large numbers of poor people, economic growth may be affected by their inability to invest in education and their lower health levels, among other factors. If inequality “squeezes” the middle class, it may reduce its demand for goods and services. If inequality means rising incomes among the rich, it could see them accumulate savings, which banks can then lend out, so increasing investment in the economy. The rich may also use their economic power to lobby against policies that don't serve their needs, for example investment in public health and education. Large wealth gaps can be associated with social conflicts, and with higher security costs, for both businesses and governments.

Source: OECD Insights, 2015

Extract 6: Rising inequality in the G7 countries

G7 countries have been facing a prolonged period of low growth and persistent slower income growth of the poorest. The poorest 20% of the G7 population receives, on average, only 5% of all income earned from work, while the richest 20 % receives about 45%. The G7 (Group of Seven) is an inter-governmental organisation made up of the world's seven largest developed economies. They are Canada, France, Germany, Italy, Japan, the UK and the United States.

Disparities exist not only in the levels of welfare, but also in how welfare has evolved over time. Multidimensional inequalities often tend to accumulate and self-perpetuate from one generation to the next, making it harder for disadvantaged children to climb the socio-economic ladder and perpetuating a vicious cycle. On average, in the G7, children with lower-educated parents have just a 15% chance of attaining tertiary education, set against 63% for children whose at least one parent had attained tertiary education. As a result, social mobility is low in many of the G7 economies.

A wide range of factors like skill-biased technological change, economic globalisation and structural changes in the labour market have contributed to rising and/or persistently high inequalities. In addition, the tax and benefit systems became less redistributive between the mid-1990s and mid-2000s exacerbating income inequality. The main reason was tighter unemployment benefit eligibility rules which reduced the number of people entitled to transfers.

Source: Adapted from OECD.org, 2017

Extract 7: The G7's Deadly Sins: Burning the planet

The climate crisis is inextricably linked to economic inequality: it is driven by the greenhouse gas emissions caused by the unsustainable development model that for more than a century has enriched the 'haves' at the expense of the 'have-nots' and the planet. G7 countries have a huge responsibility in facilitating the transition to climate-friendly development pathways. Historically, they have been responsible for the largest amount of emissions and their economies are still dependent on ever-growing consumption.

With the exception of Italy, six G7 countries are among the top 10 countries most responsible for cumulative carbon emissions. Approximately half of total global emissions from consumption can be attributed to the richest 10% of people. Of these emissions, 77% are generated by the richest 10% of people living in G7 countries. G7 countries are also responsible for failing to take action to cut emissions. Even Germany, often wrongly perceived as a climate leader, will miss its target to cut emissions by 40% by 2020, largely because of inaction in the transport and construction sectors.

Source: Adapted from Oxfamilibrary, 2019

Extract 8: G7 Unemployment facts and figures

The unemployment rate in G7 countries increased to 6.7% in 2020 compared to 4.3% in 2019. The youth unemployment rate (15-24), at 13.9% in 2020, remains a major concern. The gender gap in the labour force participation rate stood at 12.8 percentage points in 2020, down from 14.1 percentage points in 2014.

The share of youth not in employment, education or training (NEET) was estimated at 10.6% for male and at 11.2% for female in 2019 down from 12% for male and 13.3% for female in 2015. An estimated 7.8% of the adult (25+) and 18.1% of the youth (15-24) extended labour force was underutilized in 2020.

Source: ILOSTAT, ILO modelled estimates, April 2021

Table 1: Debt of G7 Nations

G7 countries	General Government Net Debt/GDP (%) (2019)
Canada	23
Germany	41
Uk	75
Europe	89
USA	83
Italy	122
Japan	150

Source: icaew.com/insights April 2021

Table 2: Selected economic indicators of Singapore

	2015	2016	2017	2018	2019	2020
Real GDP growth rate (%)	2.98	3.33	4.52	3.5	1.35	-5.39
Inflation rate (%)	-0.52	-0.53	0.58	0.44	0.57	-0.18
Unemployment rate (%)	3.79	4.08	4.2	3.65	3.1	5.19
Budget position as a percentage of GDP (%)	1.7	3.66	5.31	3.69	3.84	-8.94
Gini coefficient (before accounting for government transfers & taxes)	0.464	0.458	0.459	0.458	0.452	0.452
Gini coefficient (after accounting for government transfers & taxes)	0.409	0.401	0.402	0.403	0.398	0.375

Source: Statista.com & Singstat.gov.sg

Extract 9: Why Singapore gives top priority to fighting income inequality?

Singapore's politics will turn vicious, its society will fracture and the country will wither if it allows widening income inequalities to create "a rigid and stratified social system", said Prime Minister Lee Hsien Loong in a reply to a parliamentary question from Mr Gan Thiam Poh.

"As globalisation and technological disruption have widened income inequality, the Government has over the years intervened more aggressively to support the less well-off," he said, citing both long-term policies such as education, home ownership and affordable healthcare, as well as

targeted, means-tested programmes which provide transfers and subsidies to lower-income groups such as the Workfare Income Supplement scheme.

Education is a critical plank of the Government's efforts, he stressed, whether in building up pre-schools and having schemes like KidStart for children from poor families or giving out bursaries and getting people to go for training via SkillsFuture. However, he also cautions that it will get harder to narrow and bridge class divisions as our society matures.

He stressed that the government policies on urban planning and public housing have enabled ethnic and social integration, and distributed access to good schools, healthcare, parks and recreation across the island.

To fund increased social spending, "significant changes" have been made, like introducing GST in 1994 as a source of revenue, he said. "But though we have far more extensive social safety nets now than we did in the 1970s and 1980s, it is important to strike the right balance: Providing sufficient transfers to support those who need extra help so they can help themselves, but without diminishing their incentive to work or discouraging enterprise."

Source: The Straits Times, 6 February 2018

Questions

- (a) With reference to Table 2, compare the change in Gini coefficient (before accounting for government transfers and taxes) with that of the change in the Gini coefficient (after accounting for government transfers and taxes) for Singapore from 2015 to 2020. [2]
- (b) Explain how "skill-biased technological change" leads to wage differential as referred to in Extract 6. [2]
- (c) With the help of a diagram, explain why there exists misallocation of resources in the market for tertiary education. [4]
- (d) (i) Explain how a less distributive tax and benefit system will impact the real national income of an economy. [4]
- (ii) Discuss whether attaining low rate of unemployment should be the main aim for G7 countries. [8]
- (e) Discuss whether supply-side policies are more appropriate than demand-management measures in achieving inclusive growth in Singapore. [10]

[Total: 30]

Question 1 The on-going dilemma with the miracle ingredient – Palm oil

Extract 1: How the world got hooked on palm oil

Palm oil's world domination is the result of it being able to replace less healthy fats in foods in the west, a cheap replacement of more expensive oils in home and personal care products and growing affluence in Asian countries where people consumed more fat, much of it in the form of palm oil.

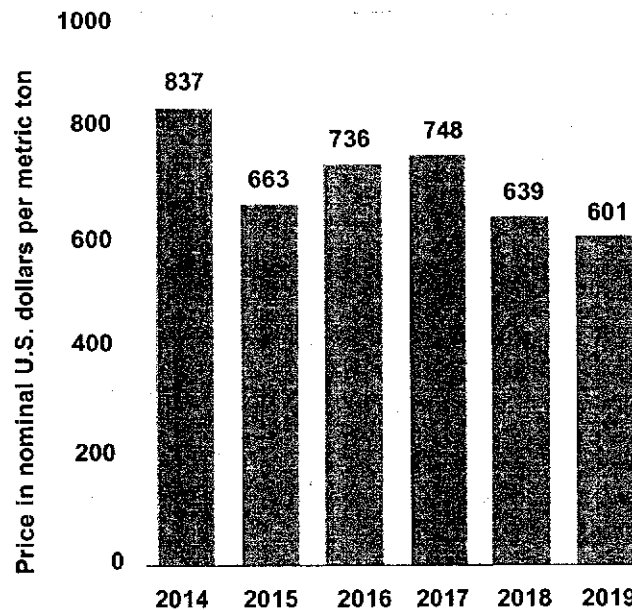
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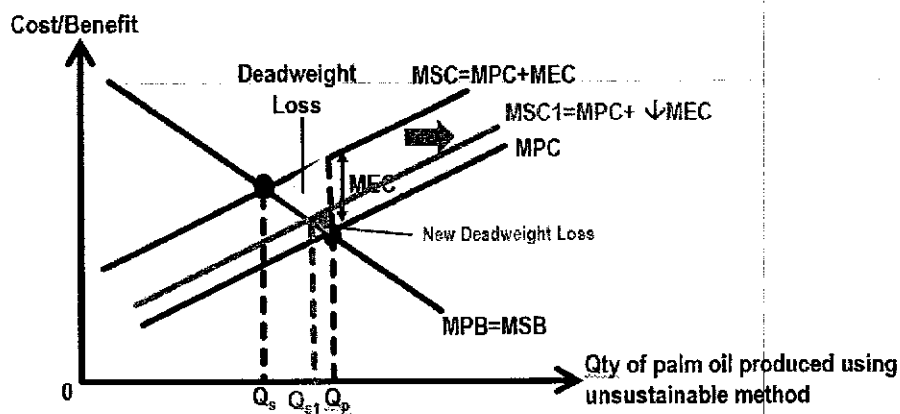
(a)	(i)	From Figure 1, identify the trend in average prices for palm oil worldwide from 2014 to 2019.	[1]
		<p>Answer:</p> <p>Falling trend in average prices for palm oil worldwide from 2014 to 2019.</p> <p>Note:</p> <ul style="list-style-type: none"> • No mark will be awarded for answers stating that average prices for palm oil has decreased / fallen. Reason being that trend involves a continuous pattern hence students must mentioned that prices are falling / decreasing. • However, mark will be awarded for students who mentioned that, "The trend in average prices for palm oil has fallen / decreased". 	1m
	(ii)	Using a diagram and Extract 1, explain the trend in average prices for palm oil worldwide identified in a(i).	[4]
		<p>Answer:</p> <p>As mentioned in Extract 1, demand for palm oil increased due to increased disposable income and purchasing power of consumers in Asia which led to increased consumption of fats in the form of palm oil. Supply on the other hand has also increased as favourable weather and the increased use of fertilizers have enabled more palm trees to grow which led to increased production of palm oil as mentioned in Extract 1. [1m]</p> <p><i>*Other reasons for increased DD mentioned in extract 1 are acceptable such as increased DD for palm oil due to producers replacing less healthy fats in foods with healthier palm oil / increased DD for palm oil as other oils became more expensive (increased price of other oils -> decreased qty DD -> increased DD for palm oil as it is a substitute).</i></p> <p>Increased supply is likely to be greater than the increased in demand as extract 1 mentioned that palm trees are perennial and evergreen which enables year-round production and that the annual production has quadrupled between 1995 and 2015 and expected to quadruple again by 2050. [1m]</p> <p>As seen from the diagram below, supply curve shifts to the right from S0 to S1 and demand curve shifts to the right from D0 to D1. However, SS curve will shift more to the right than DD curve. At original price P0, there will be a surplus Q2Q3 which puts a downward pressure on price. Hence, price will fall from P0 to P1. [1m]</p>	

	<p style="text-align: center;">Price of palm oil</p> <p style="text-align: right;">[1m]</p> <p>Marks allocation:</p> <ul style="list-style-type: none"> • Explained that DD has increased with contextual evidence – 1m • Explained that SS has increased with contextual evidence – 1m • Illustrated with DD-SS diagram which is correctly drawn and labelled. Showed that $\uparrow SS > \uparrow DD$ – 1m • Explained the price adjustment process i.e. surplus at original price, P_0 which puts a downward pressure on price – 1m <p>Note:</p> <ul style="list-style-type: none"> • Maximum of 2 marks will be awarded to students who only presented single shift in their answers. 	
(b)	<p>Using elasticity concept, explain the expected impact of the trend in price of palm oil identified in a(i) on the total revenue of palm oil producers.</p>	[3]
	<p>Answer:</p> <p>The demand for palm oil is likely to be price inelastic [1m] as mentioned in extract 1 that it was difficult to substitute palm oil due to its unique physical performance characteristics. [1m] Hence a fall in price will lead to a less than proportionate increased in quantity demanded, ceteris paribus which results in a decrease in total revenue for the palm oil producer. [1m]</p> <p>Marks allocation:</p> <ul style="list-style-type: none"> • Identify that $PED < 1$ and justify – 2m • TR decreased as $PED < 1$ – 1m <p>Note:</p> <ul style="list-style-type: none"> • If student made a mistake with the explanation of the effect on qty DD when price decreases e.g. 1% decrease in price leads to a less than proportionate increase in demand instead of quantity demanded but illustrated with a correctly drawn D-SS diagram and everything else are correctly explained, full marks will be awarded. 	

(c)	(i)	<p>Explain why there is a need for government intervention in the market for palm oil.</p>	[4]
		<p>Answer:</p> <p>Negative externalities are costs arising from an economic activity that falls on a third party and is not taken into account by those who directly participate in the economic activity.</p> <p>For example, when the palm oil producer burns the forest to create palm oil plantations, the producer only takes into account his private cost which includes labour cost, cost of machinery etc... As mentioned in extract 3, the drier conditions have caused the fires to burn out of control which could destroy the homes, fields and cause injuries of those who are living near these forests who are not directly involved in the production of palm oil. In addition, the excessive smoke from the burning of the forests caused hundreds of thousands of people to be sick. Therefore, there is external cost which is the medical cost, rental cost, loss of income incurred by these people and is not accounted for by the producer.</p> <p>With no government intervention, producers will only be concerned with the private cost (MPC) which is the production costs and private benefit (MPB) which is the revenue earned from selling the palm oil and hence produce at the point Q_p where MPC cuts MPB to maximize producers' net private benefit (refer to diagram below). However, the socially optimal level where social welfare is maximized is at Q_s (where MSC cuts MSB). Therefore, without any government intervention, producers will ignore the external cost involved and there will tend to be an over-production of goods ($Q_p > Q_s$) that generate negative externalities. A deadweight loss which represents a welfare loss on society is incurred (illustrated by the shaded area in the diagram below).</p> <div data-bbox="542 1344 1260 1680" data-label="Figure"> <p>The diagram is a line graph with 'Cost/Benefit' on the vertical axis and 'Qty of palm oil produced' on the horizontal axis. There are three main lines: a downward-sloping line for MSB = MPB (Assuming MEB = 0), an upward-sloping line for MPC, and another upward-sloping line for MSC = MPC + MEC. The intersection of MPC and MSB is marked with a vertical dashed line to the x-axis at Q_p. The intersection of MSC and MSB is marked with a vertical dashed line to the x-axis at Q_s. A shaded triangular area between Q_s and Q_p is labeled 'DWL'. A vertical bracket between the MSC and MPC lines at Q_p is labeled 'MEC'.</p> </div> <p>Marks allocation:</p> <ul style="list-style-type: none"> • Identify negative externality, third parties and MEC – 1m • Socially optimal output level (MSB = MSC) – 1m • Identify issue of over-production where $Q_p > Q_s$ – 1m • Diagram – 1m 	

	<p>Note:</p> <ul style="list-style-type: none"> If student identified the incorrect trigger i.e. over-consumption but negative externality concepts were all correctly explained, a maximum of 2 marks will be given. 	
(ii)	<p>Discuss whether ISPO certification is the most effective strategy in achieving allocative efficiency in the Indonesian market for palm oil.</p>	[8]
	<p>Thesis: ISPO certification is the most effective strategy</p> <ul style="list-style-type: none"> As mentioned in Extract 4, palm oil producers who obtained the ISPO certification by complying with requirements such as legality, environmental accountability, social responsibility and business practices are most likely to benefit from increased sales and revenue from large global firms which have committed to procuring sustainable palm oil. Being certified will give the buyers confidence as it carries an assurance that the products are produced legally; the company has the requisite permits; and the grower has followed certain environmental as well as labour and social standards. Hence, palm oil producers who are not certified and thus producing palm oil in an unsustainable manner will not be able to sell their palm oil to large global firms, thus losing out in terms of sales and revenue. Thus, the marginal private benefit (MPB) of producing palm oil in an unsustainable manner by burning forests to create palm oil plantations will now be lower. As shown by the diagram below, the MPB curve shifts down to MPB1 till it coincides with Qs, eliminating the deadweight loss and achieving allocative efficiency. <div data-bbox="422 1366 1284 1814" data-label="Figure"> </div> <p>OR ANOTHER ACCEPTABLE EXPLANATION:</p>	

- Palm oil farmers who want to obtain the ISPO certification would need to comply with requirements such as legality, environmental accountability, social responsibility and business practices (extract 4) which would result in a more sustainable way of producing palm oil (i.e. reduction in the clearing of land through burning to plant more palm trees).
- Given a reduction in the burning of land to plant more palm trees, there will be lesser carbon dioxide emissions and smoke from the fires caused by the burning of the land. Hence, there will be a reduction in the marginal external cost (MEC) incurred by the third parties i.e. people who are not directly involved in the production of palm oil e.g. those who live near the forests, farmers of other types of crops etc... as they incur lesser medical costs / rental costs, experience lesser loss in revenue etc...
- From the diagram below, MSC curve will shift downwards due to the fall in MEC, hence Q_s has shifted from Q_s to Q_{s1} . The deadweight loss has been reduced as represented by the area shaded in red which is smaller than the original deadweight loss area shaded in yellow, therefore greater allocative efficiency has been achieved.



Anti-thesis: ISPO certification is not the most effective strategy

- ISPO certification might take some time before the deadweight loss from production of palm oil in an unsustainable manner is eliminated as there are several criteria which palm oil producers need to meet e.g. land ownership and checks need to be conducted before they can be certified.
- Most of the palm oil firms which are ISPO certified are the large firms. The smallholder farmers faced difficulties in getting certified due to low education which made it challenging for them to understand the various instructions and criteria to fulfil. Low income also made it

difficult for them to be certified as funds are required to purchase high quality agricultural inputs such as fertilizers to boost their yield. As a result, these farmers cut down forest to plant more palm trees which caused more fires; damaging homes and causing health problems for people living near the plantations.

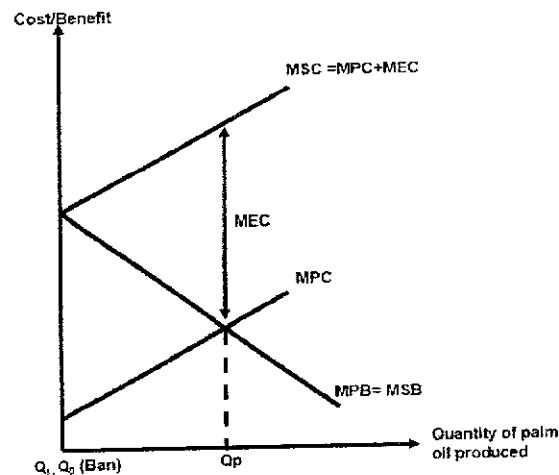
- Indonesian government might lack the motivation to obtain high number of ISPO certification as it only needs to export to a few countries such as Europe and US given its large domestic consumption of palm oil (30-35%).
- The Indonesian government might incur high monitoring costs to ensure that palm oil producers continue to adhere to the guidelines after they obtain the ISPO certification.

Note:

- 2 limitations of the ISPO certification will be sufficient. We have given more limitations here to help broaden your perspectives.

Alternative strategy:

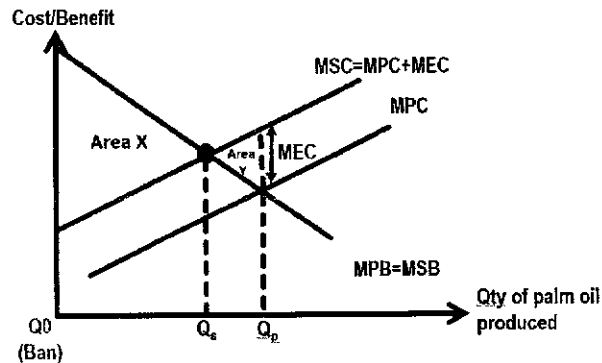
- A ban could be placed on palm oil production to achieve allocative efficiency.
- As seen from the diagram below, the ban as illustrated by the vertical axis at Q_0 will shift Q_p leftwards till it coincides with Q_s ; hence removing deadweight loss and achieving allocative efficiency.



Limitations of the ban:

- **Government failure**
- MEC might not be as large as what the government thinks it is. Hence, banning the production of palm oil will lead to a greater

deadweight loss than before as seen from the diagram below where area X is greater than area Y.



*Other alternative strategies such as tax is acceptable.

Make a stand and substantiate:

Stand: ISPO certification is the most effective and sustainable strategy.

ISPO certification not only helps to address the market failure caused by the production of palm oil but it also help to retain jobs in the palm oil industry (which is of utmost importance given the large number of Indonesians employed in the palm oil sector and related sectors. The consequences would have been dire if jobs were not retained in this sector as the Indonesian economy would see a significant fall in consumption, standard of living and a rise in unemployment benefits that need to be given out) and increase the revenue of palm oil farmers as large global firms such as Nestle, PepsiCo, Unilever etc... which would only purchase palm oil which are produced sustainably.

Alternative strategies such as a ban, on the other hand, would cause loss of jobs for many Indonesians; reducing consumption and standard of living. Given that one of the major exports from Indonesia is palm oil, a ban would see a drastic fall in export revenue and coupled with the fall in consumption, would result in a fall in AD; resulting in a fall in actual growth for the economy. Furthermore, given that palm oil is used extensively worldwide in the production of many products due to its versatility, affordability and healthier than other oils as mentioned in Extract 1, a ban on palm oil would result in a rise in cost of production as more expensive oils need to be used to replace the cheaper palm oil, leading to a fall in supply and rise in price. Consumers worldwide will end up paying more for products and hence experience a rise in their cost of living. In addition, the use of other oils which are less healthy than palm oil may lead to unintended consequences such as a rise in health issues such as heart diseases etc... Besides the issue about replacing with other oils which are more expensive and less healthy, there is also no guarantee that the production of other oils would not bring about negative externalities which does not solve the problem.

Therefore, the most effective strategy to address market failure in the production of palm oil is not to ban palm oil but to find a sustainable way to produce it as the costs of banning palm oil outweighs the benefits of continuing production.

Note:

There is no need for you to write such a long and detailed substantiation. We have given you a very detailed write-up for training purposes.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L2	<ul style="list-style-type: none"> • Question requirements are interpreted accurately. • Well-developed 2-sided response with the use of appropriate economic concepts, theories and principles. • Economic analysis is accurate, complete and well supported by contextual evidence. • Cost-benefit diagrams are used to support economic analysis, where relevant. 	4 – 6
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately OR 1-sided response. • Inappropriate economic concepts, theories and principles are used. • Inaccurate economic analysis. • Lack / did not use contextual evidence. • Inappropriate or wrong diagrams are used. 	1 – 3
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis.	2
	Unexplained evaluative comments.	1

(d) **To what extent would the changes in palm oil industry likely to lead to changes in the standard of living of people in Indonesia.** [10]

Intro

- Standard of living measures the material and non-material well-being of an individual or household.
- Material SOL measures the availability of goods and services to each person in a country whereas non-material SOL measures the quality of life of the people in the country. Quality of life would include the indicator such as quality of air and water, stress levels, mortality rates, literacy rates, leisure time.

- Given that Indonesia is a major exporter of palm oil, a large percentage of its population will be hired in the palm oil industry hence any changes to the palm oil industry will impact on the lives of many Indonesians.
- Some of the changes which have happened in the palm oil industry are as follows:
 - Increased demand for palm oil due to it being seen as a healthier replacement of less healthy fats in products, versatile oil for a wide range of food and personal care products, cheap factor input and increased consumption of fats in Asian countries due to increased affluence according to Extract 1.
 - Initiation of the Indonesian Sustainable Palm Oil (ISPO) certification in 2011 and making it mandatory for all producers other than smallholder farmer in 2014.

Body

❖ **Impact of change 1 – increased demand for palm oil on SOL of the people in Indonesia.**

- **Thesis: Increased demand for palm oil will likely lead to an improvement in SOL of the people in Indonesia to a large extent**

- Given the increased in demand for palm oil as mentioned in extract 1 due to it being seen as a healthier replacement of less healthy fats in products, versatile oil for a wide range of food and personal care products, cheap factor input and increased consumption of fats in Asian countries due to increased affluence, Indonesia has experienced an increase in the demand for their palm oil exports; leading to increased export revenue assuming import expenditure remains constant, which increased net exports resulting in an increase in aggregate demand (AD). An increase in AD will lead to increases in general price level (GPL) and real national income (RNY). Increased RNY means more goods and services are produced which raises the material SOL of Indonesians.

➤ **Evaluation:** However, as seen in Figure 1, the price of palm oil has been decreasing and evidence from extract 1 showed that the demand for palm oil is highly likely to be price inelastic thus the total revenue earned by palm oil farmers will decrease as a 1% decrease in price of palm oil will lead to a less than proportionate increase in quantity demanded for palm oil, ceteris paribus. Given that palm oil farmers are earning less revenue, their purchasing power will be reduced hence consumption of goods and services will decreased thus their material SOL might not improve.

- With an increase in RNY, output of goods and services increased which increases the demand for labour as labour is in derived

demand; resulting in an increase in employment (**Extract 2: "Oil palm plantations have created millions of well-paying jobs and enabled tens of thousands of smallholder farmers to own their own land"**). Increased employment leads to increase in disposable income and purchasing power; resulting in an increase in consumption of goods and services which raises their material SOL. Non-material SOL could also increase when Indonesians consume goods and services which improves their well-being such as entertainment services, spa treatments etc...

- Due to the increased production of palm oil, the Indonesian government has most likely improved the infrastructure of the plantation to enable more efficient production and transportation of the palm oil out of the plantations e.g. irrigation, roads etc... The improvement in infrastructures such as irrigation, roads etc... helped raised the non-material SOL of the Indonesians in terms of clean water, increased convenience etc... **Evidence from extract 2: "While at the regional level, contracts between smallholder palm oil farmers and private or state-owned companies significantly contributed to the regional economy especially at the village level in the form of infrastructure built. This not only benefited contract farmers but also non-contract farmers as well"**.
- Given the improvements in infrastructure and economic growth in Indonesia, foreign investors will most likely be attracted to invest in the country. Hence, with an increase in FDI, there will be further increase in AD which leads to further increases in GPL and RNY; leading to further rise in material SOL as there is an increase in production of goods and services for the Indonesians to consume. Increased FDI will create more jobs for the Indonesians which enable them to increase their disposable income and purchasing power; hence increasing consumption of goods and services, leading to a rise in material and non-material SOL.
- **Evaluation:** This is assuming that the skills and knowledge possessed by Indonesians are demanded by the foreign firms. If foreign firms in Indonesia are increasingly looking for people with higher educational qualifications, specialised skills etc... Indonesians who are living in the rural areas or those who lack the educational qualifications / skills etc... might be displaced and structural unemployment rises which reduces their material SOL. Furthermore, those who are demanded by the foreign firms will most likely received higher wages which widens the income gap between these two groups of people hence worsening material SOL.
- Increased FDI could result in increase in productive capacity due to increases in quantity and quality of capital & labour, technology, innovation which leads to increase in actual and potential growth. This will enable Indonesians to enjoy better quality goods and services

	<p>perhaps at more competitive prices, greater varieties etc... hence raising their material SOL in the long-run. Non-material SOL could also be raised if the consumption of goods enhanced the people's well-being.</p> <ul style="list-style-type: none"> - With a rise in employment and hence increase in disposable income, the government could raise income tax and use the increased tax revenue to spend on essential areas like healthcare, education, transport networks etc... to raise the material (e.g. increase quantity of medical facilities, medications, treatments, roads, educational materials etc...) and non-material (e.g. better quality medications, treatments, service, raise literacy levels etc...) aspects of SOL. • <i>Anti-thesis: Increased demand for palm oil might not lead to an improvement in SOL of the people in Indonesia</i> - If GPL increases persistently due to continuous increases in AD without corresponding rise in AS, Indonesia might experience demand-pull inflation. This would cause domestic goods to be more expensive hence raising the cost of living for the people which does not result in improvements in material and non-material SOL. - Material SOL of Indonesians working in the palm oil industry especially those from small set-ups might not improve as they are likely to lose out to bigger palm oil companies in terms of securing high value contracts with big manufacturing firms due to the lack of corporate establishment. Hence, most of the revenue will be earned by these larger palm oil companies; resulting in an increase in income inequality between the small palm oil owners and the large palm oil companies which will not result in an improvement in material SOL for the small palm oil owners. - Non-material SOL might not improve, though many Indonesians were lifted out of poverty as the workers on palm oil plantations might be working long hours, under harsh conditions, unfair treatment etc... as it was <i>mentioned in extract 2 that there is a lack of enforcement capacity by the labour authorities. It was also mentioned in extract 2 that child labour exists in the palm oil sector</i> which deprived the children of proper education and are subjected to laborious work which might not be suitable for their young bodies thus there is no improvement in non-material SOL in Indonesia. - <i>As mentioned in extract 3, palm oil production has caused forest fires when they are burnt to create palm oil plantations. As a result, "Indonesia lost 16% of its tree cover or nearly 26 million hectares of forest. The loss of those forests released the equivalent of about 10.5 gigatons of carbon dioxide emissions".</i> 	
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The loss of tree cover will make it warmer for the people living in the forest in addition to inhaling large amounts of smoke from the fires which could cause respiratory problems especially in young children. Thus, non-material SOL does not improve.

- **It was also mentioned in extract 3 that airports were closed due to the smoke from the annual fires** which would result in a loss of tourist revenue as tourists could not visit Indonesia due to the haze. Impact on export revenue would depend on whether the export revenue from palm oil is greater than tourist receipts. If decrease in export revenue from tourist receipts outweighs export revenue from palm oil, AD would fall which results in a fall in RNY and hence a fall in output of goods and services, therefore no improvement in material SOL.
- Evaluation: As this is an annual occurrence, it is unlikely that export revenue will fall hence RNY will still increase and hence material and non-material SOL could still improve after all.

❖ **Impact of change 2 – making ISPO certification mandatory for all producers other than smallholder farmer in 2014 on SOL of the people in Indonesia:**

- **Thesis: Making the Indonesian Sustainable Palm Oil (ISPO) mandatory for all producers other than smallholder farmers will likely lead to an improvement in SOL of the people in Indonesia.**
- Palm oil farmers who want to obtain the ISPO certification would need to comply with requirements such as **legality, environmental accountability, social responsibility and business practices (extract 4)** which would result in a more sustainable way of producing palm oil (i.e. reduction in the clearing of land through burning to plant more palm trees). Given a reduction in the burning of land to plant more palm trees, there will be lesser carbon dioxide emissions and smoke from the fires caused by the burning of the land which leads to an improvement in the non-material SOL of Indonesians.
- In addition, the ISPO certification will also see a reduction in the use of child labour which means that these children will most likely get to go to school and receive education which improves their literacy rate; leading to improvements in non-material SOL.
- Evaluation: Palm oil industry is not the only one that uses child labour in Indonesia. There are many other industries such as textiles, shoes, food etc... that used child labour to cut down on production costs. Many low-income families in Indonesia need the money and will get their children to work in these industries to contribute to household income. They will just find work in other industries when palm oil industry is not hiring. Hence, cutting down on child labour in palm oil industry alone might not help to cut down on child labour sufficiently.

- As mentioned in Extract 4, palm oil producers who are ISPO certified are "likely to benefit from increased sales and revenue as many large global firms such as PepsiCo, Nestle, Unilever etc... have committed to procuring only sustainable palm oil. Hence, producers will have higher disposable income and purchasing power to consume more goods and services; leading to increased material SOL. Non-material SOL could also increase if the consumption of goods and services help to raise well-being of individuals such as spa treatments, wellness programmes etc...

• **Anti-thesis: Making the Indonesian Sustainable Palm Oil (ISPO) mandatory for all producers other than smallholder farmers will unlikely lead to an improvement in SOL of the people in Indonesia.**

- As mentioned in **Extract 4, smallholder farmers found it difficult to obtain the ISPO certification due to the lack of access to high-quality agricultural inputs such as fertilizers, low education and income.** Hence, they will lose out in terms of sales and revenue as global firms such as PepsiCo, Nestle, Unilever etc... will only purchase sustainable palm oil such as those with ISPO certification. Therefore, their disposable income and purchasing power will decrease the consumption of goods and services; lowering material SOL for this group of farmers.

- Given the disparity in the level of incomes earned between the large and small palm oil producers, there could be an increase in income inequality which would not result in an improvement in the material SOL of Indonesians on the whole.

Conclusion

It is likely that demand for palm oil will still be rising in years to come due to its wide use in almost every food and personal care products and low cost which makes it difficult to replace with other types of oils. Thus, Indonesia should see the demand for its exports of palm oil rising and export revenue rising as well which will enable the Indonesian economy to grow. As such, material SOL of Indonesians will improve as they are able to consume more and better quality goods and services.

Given that there are more concerns about the sustainability of palm oil, especially in the international scene and European Commission approving a measure to ban palm oil, major palm oil producing countries like Indonesia will push even harder to ensure that palm oil is produced sustainably by ensuring that all palm oil producers even the smallholder farmers are ISPO certified, lest more countries refused to import palm oil which is not sustainable. Hence, the Indonesian government will further improve the way palm oil is produced to make it more sustainable in terms of the environment and labour conditions. When this happens, non-material SOL of Indonesians working in palm oil plantations will improve even further.

Since there would be higher percentage of ISPO certified palm oil producers in the long-run, palm oil exports would increase even further which will lead to further increase in real national income; causing an increase in demand for labour given the increase in output which raises disposable income and purchasing power and hence material SOL of the Indonesians.

It is still difficult to conclude for sure at the end of the day if SOL for Indonesians will improve or not as palm oil industry is just one of the many industries in the economy which affects the SOL of Indonesians. There are various other industries in Indonesia which might not be regulated that would impact on the SOL of Indonesians. Furthermore, there are several indicators such as real GDP per capita, composition of national income, unemployment rate, negative externalities (e.g. PSI, carbon emissions etc...), working hours, life expectancy rate, literacy rate etc... which are not available for us to make an accurate assessment on SOL in Indonesia.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L2	<ul style="list-style-type: none"> • Question requirements are interpreted accurately. • Well-developed 2-sided response. • Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. 	5 – 7
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately OR 1-sided response given. • Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. • Lack or no use of contextual evidence. 	1 – 4
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis.	2 – 3
	Unexplained evaluative comments.	1

[Total: 30]

Question 2: The Quest for Inclusive Growth

Extract 5: How does income inequality affect our lives?

Inequality can take different forms. If there are large numbers of poor people, economic growth may be affected by their inability to invest in education and their lower health levels, among other factors. If inequality "squeezes" the middle class, it may reduce its demand for goods and services. If inequality means rising incomes among the rich, it could see them accumulate savings, which banks can then lend out, so increasing investment in the economy. The rich may also use their economic power to lobby against policies that don't serve their needs, for example investment in public health and education. Large wealth gaps can be associated with social conflicts, and with higher security costs, for both businesses and governments.

Source: OECD Insights, 2015

Extract 6: Rising inequality in the G7 countries

G7 countries have been facing a prolonged period of low growth and persistent slower income growth of the poorest. The poorest 20% of the G7 population receives, on average, only 5% of all income earned from work, while the richest 20 % receives about 45%. The G7 (Group of Seven) is an inter-governmental organisation made up of the world's seven largest developed economies. They are Canada, France, Germany, Italy, Japan, the UK and the United States.

Disparities exist not only in the levels of welfare, but also in how welfare has evolved over time. Multidimensional inequalities often tend to accumulate and self-perpetuate from one generation to the next, making it harder for disadvantaged children to climb the socio-economic ladder and perpetuating a vicious cycle. On average, in the G7, children with lower-educated parents have just a 15% chance of attaining tertiary education, set against 63% for children whose at least one parent had attained tertiary education. As a result, social mobility is low in many of the G7 economies.

A wide range of factors like skill-biased technological change, economic globalisation and structural changes in the labour market have contributed to rising and/or persistently high inequalities. In addition, the tax and benefit systems became less redistributive between the mid-1990s and mid-2000s exacerbating income inequality. The main reason was tighter unemployment benefit eligibility rules which reduced the number of people entitled to transfers.

Source: Adapted from OECD.org, 2017

Extract 7: The G7's Deadly Sins: Burning the planet

The climate crisis is inextricably linked to economic inequality: it is driven by the greenhouse gas emissions caused by the unsustainable development model that for more than a century has enriched the 'haves' at the expense of the 'have-nots' and the planet. G7 countries have a huge responsibility in facilitating the transition to climate-friendly development pathways. Historically, they have been responsible for the largest amount of emissions and their economies are still dependent on ever-growing consumption.

With the exception of Italy, six G7 countries are among the top 10 countries most responsible for cumulative carbon emissions. Approximately half of total global emissions from consumption can be attributed to the richest 10% of people. Of these emissions, 77% are generated by the richest 10% of people living in G7 countries. G7 countries are also responsible for failing to take action to cut emissions. Even Germany, often wrongly perceived as a climate leader, will miss its target to cut emissions by 40% by 2020, largely because of inaction in the transport and construction sectors.

Source: Adapted from Oxfamilibrary, 2019

Extract 8: G7 Unemployment facts and figures

The unemployment rate in G7 countries increased to 6.7% in 2020 compared to 4.3% in 2019. The youth unemployment rate (15-24), at 13.9% in 2020, remains a major concern. The gender gap in the labour force participation rate stood at 12.8 percentage points in 2020, down from 14.1 percentage points in 2014.

The share of youth not in employment, education or training (NEET) was estimated at 10.6% for male and at 11.2% for female in 2019 down from 12% for male and 13.3% for female in 2015. An estimated 7.8% of the adult (25+) and 18.1% of the youth (15-24) extended labour force was underutilized in 2020.

Source: ILOSTAT, ILO modelled estimates, April 2021

Table 1: Debt of G7 Nations

G7 countries	General Government Net Debt/GDP (%) (2019)
Canada	23
Germany	41
Uk	75
Europe	89
USA	83
Italy	122
Japan	150

Source: icaew.com/insights April 2021

Table 2: Selected economic indicators of Singapore

	2015	2016	2017	2018	2019	2020
Real GDP growth rate (%)	2.98	3.33	4.52	3.5	1.35	-5.39
Inflation rate (%)	-0.52	-0.53	0.58	0.44	0.57	-0.18
Unemployment rate (%)	3.79	4.08	4.2	3.65	3.1	5.19
Budget position as a percentage of GDP (%)	1.7	3.66	5.31	3.69	3.84	-8.94
Gini coefficient (before accounting for government transfers & taxes)	0.464	0.458	0.450	0.458	0.452	0.452
Gini coefficient (after accounting for government transfers & taxes)	0.409	0.401	0.402	0.403	0.398	0.375

Source: Statista.com & Singstat.gov.sg

Extract 9: Why Singapore gives top priority to fighting income inequality?

Singapore's politics will turn vicious, its society will fracture and the country will wither if it allows widening income inequalities to create "a rigid and stratified social system", said Prime Minister Lee Hsien Loong in a reply to a parliamentary question from Mr Gan Thiam Poh.

"As globalisation and technological disruption have widened income inequality, the Government has over the years intervened more aggressively to support the less well-off," he said, citing both long-term policies such as education, home ownership and affordable healthcare, as well as targeted, means-tested programmes which provide transfers and subsidies to lower-income groups such as the Workfare Income Supplement scheme.

Education is a critical plank of the Government's efforts, he stressed, whether in building up pre-schools and having schemes like KidStart for children from poor families or giving out bursaries and getting people to go for training via SkillsFuture. However, he also cautions that it will get harder to narrow and bridge class divisions as our society matures.

He stressed that the government policies on urban planning and public housing have enabled ethnic and social integration, and distributed access to good schools, healthcare, parks and recreation across the island.

To fund increased social spending, "significant changes" have been made, like introducing GST in 1994 as a source of revenue, he said. "But though we have far more extensive social safety nets now than we did in the 1970s and 1980s, it is important to strike the right balance: Providing sufficient transfers to support those who need extra help so they can help themselves, but without diminishing their incentive to work or discouraging enterprise."

Source: The Straits Times, 6 February 2018

Questions

- (a) With reference to Table 2, compare the change in Gini coefficient (before accounting for government transfers and taxes) with that of the change in the Gini coefficient (after accounting for government transfers and taxes) for Singapore from 2015 to 2020. [2]
- (b) Explain how "skill-biased technological change" leads to wage differential as referred to in Extract 6. [2]
- (c) With the help of a diagram, explain why there exists misallocation of resources in the market for tertiary education. [4]
- (d) (i) Explain how a less distributive tax and benefit system will impact the real national income of an economy. [4]
- (ii) Discuss whether attaining low rate of unemployment should be the main aim for G7 countries. [8]
- (e) Discuss whether supply-side policies are more appropriate than demand-management measures in achieving inclusive growth in Singapore. [10]

[Total: 30]

Answers

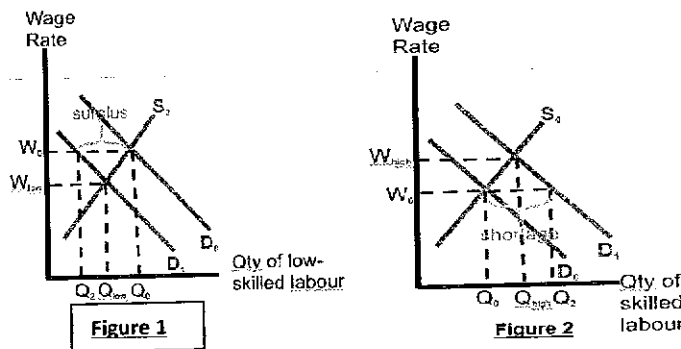
(Q a) With reference to Table 2, compare the change in Gini coefficient (before accounting for government transfers and taxes) with that of the change in the Gini coefficient (after accounting for government transfers and taxes) for Singapore from 2015 to 2020. [2]

(Ans a) Both Gini coefficient (before accounting for government transfers and taxes) & the Gini coefficient (after accounting for government transfers and taxes) improved from 2015 to 2020 (1 similarity 1m)

However the Gini coefficient (after accounting for government transfers and taxes) improved (decreased) by a greater percentage (8.31 %) compared to the Gini coefficient (before accounting for government transfers and taxes) (2.58 %). (1 difference 1m)

(Q b) Explain how "skill-biased technological change" leads to wage differential as referred to in Extract 6. [2]

(Ans b) Skill biased technological change implies that there is an increase in demand for high skilled workers. This would lead to an increase wages of skilled workers [1m]. It also implies that there will be a reduction in demand for lower-skilled workers leading to a fall in wages of lower skilled workers. [1m]. Thus "skill-biased technological change" leads to wage differential. (Diagram not Necc)



(Q c) With the help of a diagram, explain why there exists misallocation of resources in the market for tertiary education. [4]

(Ans c) Tertiary education is a merit good and hence tends to be under consumed. Thus, under-consumption of tertiary education leads to misallocation of resources in the market for tertiary education. (1m)

Under-consumption occurs because of the presence of positive externalities in tertiary education consumption – others benefit from individuals having tertiary education for example, firms benefit by employing educated and skilled workers, thus earning higher profits, economy benefits from more productive workforce and is able to attract more FDI in to the economy (Explanation of positive externality & 3rd parties (2 m).

Positive externality diagram [1m]

(Q d i) Explain how a less distributive tax and benefit system will impact the real national income of an economy. **[4]**

(Ans d i) Less distributive tax and benefit system implies a “decline in the number of people entitled for transfer payments **[1m]**.”

Evidence from Extract 6 “The main reason was tighter unemployment benefit eligibility rules which reduced the number of people entitled to transfers”.

A fall in the number of people entitled for transfer payments will lead to a reduction in their purchasing power & will cause a fall in the “C” component. Ceteris paribus, this will result in a fall in AD and a fall in the real national income of the economy. **[2m]**

- Diagram **[1m]**

(Q d ii) Discuss whether attaining low rate of unemployment should be the main aim for G7 countries. **[8]**

(Ans d ii) Attaining low rate of unemployment should be the main aim for G7 countries. :

Evidence from extract 8 states that the unemployment rate in G7 countries has increased to 6.7 per cent in 2020 compared to 4.3 per cent in 2019. The youth unemployment rate (15-24), at 13.9% in 2020, remains a major concern.

Thus they should aim to reduce the unemployment as high unemployment, specifically the high youth unemployment rate has very serious consequences on economy.

Explain the costs of high unemployment

- **Unemployment feeds on unemployment:** Rising unemployment will mean falling disposable income and thus consumers will experience a fall in purchasing power, leading to a fall in standard of living and contractionary effects on the economy. The fall in consumption will lead to a fall in AD and thus a fall in output. As labour is in derived demand, the falling output would cause a further increase in unemployment.
- **Impact on the government budget and ability to undertake fiscal policy:** High unemployment has a negative impact on government expenditure, taxation and the level of government borrowing. An increase in unemployment results in higher benefit payments and lower tax revenues for the government. When individuals are unemployed, not only do they receive benefits but also pay no income tax. As they are spending less, they also contribute less to the government in indirect taxes. The higher government expenditure and lower tax revenue can worsen the budget position of the economy. (This is a very serious consequence as the G7 countries are already having a worsening budget position as is evident from Table 1 and will limit the countries' capacity to conduct expansionary policies in future.)
- **Effect of youth unemployment on productive capacity which affects sustained future growth:** Wasted capacity due to the loss of man hours will lead to a fall in the maximum amount of output that G7 countries can generate, which will limit the countries' future growth. (Evidence from Extract 8 suggests an estimated 7.8 per cent of the adult (25+) and 18.1 per cent of the youth (15-24) labour force was underutilized in 2020). Prolonged structural unemployment leads to atrophy of skills over time. Firms may choose to invest elsewhere with a more dynamic and relevant workforce. With a slower growth in investment, this will slow both potential growth and actual growth in the future for the G7 countries.

(The student can also explain the benefits of low unemployment for the economy instead of explaining the Costs of high Unemployment)

Anti-thesis: Attaining low rate of unemployment should not be the main aim as other aims are more important:

Inclusive growth should be the main aim for G7 countries

Inclusive growth should be the main aim for G7 countries as they have been facing a prolonged period of low growth and persistent slower income growth of the poorest (Extract 6). Evidence suggests that the poorest 20 % of the G7 population receives, on average, only 5 % of all income earned from work, while the richest 20 % receives about 45 %.

- 1) More and better goods & services → Better SOL (material & non material) → will improve the poor people's ability to invest in education and improve their health condition (**Extract 5**)
- 2) Inclusive growth will encourage middle class to increase their demand for goods and services (**Extract 5**) → More employment opportunities
- 3) Alleviation of poverty
 - i) Avoidance of social conflicts and less crime in society → lesser security costs, for both businesses and governments (**Extract 5**) → attractive to foreign investors □ → Increase in FDI → LR growth
 - ii) Makes it easier for disadvantaged children to climb the socio-economic ladder □ → long term improvement in SOL → addresses the disparities in the levels of welfare and improves the social mobility (**Extract 6**)
- 4) Improves overall health status of the population → higher life expectancy and lower mortality rates .

Sustainable growth should be the main aim for G7 countries:

Evidence from extract 7 states that G7 countries have been responsible for the largest amount of emissions and their economies are still dependent on ever-growing consumption. They are among the top 10 countries most responsible for cumulative carbon emissions. This is largely because of inaction in the transport and construction sectors. Thus they should aim for sustainable growth as environmental degradation and depletion of natural resources will cause negative impacts on their economy.

- Worsening of pollution levels from carbon emissions from energy-intensive manufacturing activities; dumping of industrial waste has negative impact on SOL
- Rapid depletion of natural resources may become a supply-side bottleneck constraining economic growth in future
- Future growth will be restrained because with increasing AD, the economy will be unable to increase output further as there are fewer resources available leading to inflationary pressures in the economy

Evaluation: Attaining low rate of unemployment should be one of the main aim for G7 countries as the unemployment rate significantly increased in 2020. But the G7 Governments may also focus on achieving inclusive growth because there is no inherent trade-off in economic policymaking between the promotion of social inclusion and that of economic growth and unemployment; it is possible to be pro-equity and pro-growth at the same time, however, government should not pursue growth at all costs. When an economy achieves inclusive growth it can also lead to lower cyclical unemployment. But the G7 countries must identify the

root cause of high youth unemployment and should address the root cause and aim to lower it.

Additionally, while G7 countries aim to attain low rate of unemployment, they also need to bear the aim of sustainability in mind. For the aim of attaining low rate of unemployment and environmentally sustainable policies to work together, G7 requires the support of strong governance that is committed to the long term progress of the economies.

Additionally, the G7 countries are made of 7 different countries and their main aim will be dependent on the state of the economy and the problems faced by the individual countries.

Knowledge, Understanding, Application and Analysis		
L2	Balanced analysis on whether attaining low rate of unemployment should be the main aim for G7 countries. Analysis is contextualised to G7 economies. Should bring in at least another aim.	4-6
L1	Mere listing of the benefits of attaining low rate of unemployment or listing the costs of high unemployment One-sided analysis on the benefits of attaining low rate of unemployment Or Balanced analysis attempted but argument is limited in elaboration or use of the AD/AS analysis.	1-3
E	Makes a well-reasoned judgement about the desirability of attaining low rate of unemployment	1-2

(Q f) Discuss whether supply-side policies are more appropriate than demand-management measures in achieving inclusive growth in Singapore. [10]

(Ans f)

- Explain the meaning of inclusive growth: • 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. In the case of Singapore, inclusive growth implies economic growth that takes income distribution into consideration and does not contribute to worsening income inequality.
- Evidence from case study shows that as globalization and technological disruption happens it would widen income inequality and the country would face challenges in achieving inclusive growth (Extract 9). Productivity gains have also declined due to heavier reliance on foreign labour inputs to generate economic growth.
- Singapore's Gini coefficient before taxes and transfers remains high, hence policies to narrow the income gap should be pursued if there is excessive income. In this aspect, the Singapore government has put in place various measures to narrow the income gap.

Body

Explain how supply side policies lead to inclusive growth

Supply-side policies are one of the most appropriate policies to achieve inclusive economic growth. Singapore uses long-term policies such as investment in education, affordable healthcare, and upgradation of skills training via programs like SkillsFuture to achieve inclusive growth (Extract 9).

Supply side policies increases productivity and factor quality. Productivity increases leads to the reduction in COP and an increase in productive capacity. Thus it allows the SG economy to accommodate increases in AD without experiencing concerns over rising inflation (due to avoidance of supply-side bottlenecks), leading to non-inflationary sustained growth (actual and potential growth).
•[Illustrate and explain with AD-AS diagram]

(i) Explain how skills upgrading policies work : One of the root causes of rising income inequality is due to the structural changes that have left the less skilled workers worse off, thus supply-side policies to help the lower-income raise their productivity in order to narrow the income gap have been put into place.

- The Singapore Workforce Development Agency was set up in Sept 2003 by the government. It identifies skills and training needs of industries that are potential areas for development and developed programmes to help jobseekers acquire skills for these new jobs.
- Under the Workfare Skills Support Scheme (WSS), the Singapore government subsidises employers up to 95% of absentee payroll to support employers to send their workers for training.
- The Continuing Education and Training (CET) Masterplan was also developed to enable workers to find their niches, seize opportunities in new growth areas and remain relevant and employable in Singapore's vibrant economy. In this, the government partners leading education and training providers, from both the public and private sectors, to set up quality CET centres that offer high quality and industry-relevant training courses, where Singaporeans and PRs get to enjoy 90% funding support for training programmes.
- The SkillsFuture Credit Scheme was developed with the objective of encouraging individuals to take ownership of their skills development and lifelong learning, in which all Singaporeans aged 25 and above receive an opening credit of S\$500 from January 2016. These credits do not expire and the government provides periodic top-ups, so that credits can be accumulated to help Singaporeans finance their skills development programmes.
- By upgrading the skills of workers through the above-mentioned, they become more productive and will be more attractive to firms, which will be more willing to pay higher wages to these better-skilled workers. This will then contribute to the reduction of the income gap.

Explain the limitations of skills upgrading policies :

- Effectiveness of skills upgrading in narrowing the income gap largely depends on the mindset as well as receptivity of workers. This is especially for low-skilled and older workers, who may not actively sign up for such retraining and skills upgrading programmes due to their steep learning curve. Hence such schemes may not necessarily achieve their intended effects of increasing the skills levels of such workers and hence raising their incomes to reduce the income gap.
- Besides, skills training and upgrading is long term in nature as it takes time to acquire new skills and to be adept at them, hence the policy may not be as effective in addressing the issue of the income gap in the short run as results will only materialize in the long term.
- There may also be the problem of a loss in productivity of workers during training since they will not be at work and this could potentially reduce profits for the firms and hence reduce employers' incentives to send their workers for training, defeating the purpose of such programmes.

- In addition, the burden of financing course subsidies falls on the part of the government. As mentioned in **Extract 9** that to fund increased social spending Govt had introduced GST as a source of revenue in 1994, but GST is regressive in nature, since lower income groups would spend a larger proportion of their income on goods and services, and inclusive growth may not be achieved .

(i) **Singapore also uses a policy of reducing dependence on low-skilled foreign worker to achieve inclusive growth**

- Under the Local Qualifying Salary (LQS) threshold, a company's quota for hiring either Work Permit holders, or S-Pass employees — who are defined as mid-skilled foreign employees who earn at least S\$2,400 a month — is determined by the number of Singaporeans on a firm's payroll. This effectively acts as a restriction on the issue of work permits to foreign workers. A reduction in the number of employment passes issued to unskilled foreign workers will reduce the supply of unskilled labour, increasing wages of the low skilled workers.. As such, Singaporean low income earners will earn higher wages resulting in a reduction in income gap.
- The government has also increased the foreign worker levy to be paid by employers, making low-skilled foreign workers becoming more expensive to hire. This will cause an increase in the demand for local low-skilled workers, resulting in higher wages and consequently a reduction in income gap.
- Reducing the dependence on foreign workers forces firms to innovate production processes to reduce reliance on low-skilled workers, and improving productivity justifies paying workers a higher wage.

(ii) **Explain limitations of reducing foreign worker dependency**

- Fall in supply of low-skilled foreign workers, ceteris paribus will lead to an increase in wage-costs, contributing to wage-push inflation.
- Some jobs will remain unfilled as locals tend to shun jobs in certain industries such as construction and shipbuilding. Key industries in Singapore could be negatively affected by this shortage of workers as reduction in ability to support production might result in SG becoming less attractive as an investment destination and will negatively affect economic growth and make attainment of inclusive growth difficult in future.

Explain how demand management policies lead to inclusive growth

Explain how a more progressive income tax structure works

- Singapore adopts the progressive income tax system in which the higher income group pays a higher marginal tax rate. The lower income group may not pay any taxes given the different exemptions - generally only 1/3 of the population pays income tax. At the current moment, the highest marginal tax rate of 22% is applied to individuals earning more than S\$320,000 annually. This helps to narrow the income gap since the after-tax income (disposable income) of high-income earners get reduced as they pay a higher proportion of their income in taxes. Income tax revenues raised are also used to finance transfer payments to the lower income earners through schemes like Pioneer Generation Package, hence facilitating the reduction of the after-tax and transfers income gap between these two groups.
- Gini coeff after govt transfers and taxes are significantly lower than the before values and have been continuously falling as is evident from **Table 2**.

- However, as mentioned in **Extract 9** too much increase in tax rate can diminish the incentive to work or discourage enterprise. If the tax system is too progressive, it can even lead to brain drain, which will affect our AS and ability to sustain growth.
- In reality, direct tax rates have been adjusted downwards and kept low in order to attract foreign talent, especially in light of our ageing population that diminishes our factor quantity and quality.

Explain how government spending works

- **Transfer payments** by the Singapore government provides assistance to lower income families via the Public Assistance Scheme also known as the Comcare Long Term Assistance Scheme for those unable to work and with little means of subsistence. This scheme does not directly address the income gap but helps to alleviate the effects of income inequalities on the underprivileged by ensuring that they are able to afford basic necessities such as healthcare facilities. Other examples include the Medifund as well as the Community Health Assist Scheme (CHAS) which enable Singapore citizens from lower to middle-income households to receive subsidies for medical and dental care at participating General Practitioners (GP) and dental clinics near their homes.
- The **Workfare Income Supplement (WIS) Scheme**, introduced in 2007, provides incentive for older low-wage workers to find work and stay in work and most importantly, it supplements the incomes of the low-wage workers through both cash and CPF top-ups from the government. In 2020, the qualifying income cap was raised from \$2,000/month to \$2,300/month and pay-outs have been raised to up to \$4000 a year. While this scheme benefits those who are employed, instead of those who have lost their jobs, it has effectively increased the after-transfer income of low-income earners and reduced the income gap.
- The Singapore Ministry of Manpower (MOM) has also adopted the **progressive wage model (PWM)** in which firms are mandated to pay workers in cleaning, security and landscape sectors a minimum entry-level basic wage based on their skillset. For instance, general cleaners employed under government contracts must be paid a basic wage of at least \$1,200 per month. This has effects similar to a minimum wage policy. For a minimum wage policy like this to be effective, it has to be set at above the free market equilibrium wage. Workers who are able to find jobs which pay at the minimum wage rate would become better-off with higher wages/incomes, narrowing the income gap. The PWM in SG also provides incentive for workers to upskill to achieve greater career progression to earn higher wages in the future.
- Legislation to increase retirement age such that the elderly have disposable income → this increases demand for elderly workers, increasing wages or reduces the fall in incomes for this group of workers.

Explain the limitations of demand-management policies

- Burden of financing transfers on the part of the government and the question of sustainability in the long run.
- There is a possibility that low income workers and their employers may become reliant on these transfers and hence lack the incentive to upgrade their skills so as to raise their productivity and move on to higher paying jobs to raise their incomes and to lower the income gap.

- Size of multiplier is small. With a large MPM is large (import reliant) and MPS (due to high CPF savings) in SG, large leakages in the circular flow of income will result in a small increase in real national income.
- Raising income taxes may incur a disincentive to work due to the substitution effect. Workers may consume more leisure since the rewards from work have decreased.
- Minimum wage policy can cause an increase in the level of unemployment among low-skilled workers as employers may also cut back on the number of workers employed as these workers are now more expensive to hire. Workers who are able to secure jobs at the minimum wage are better-off with higher incomes, but workers who are unable to find jobs are worse-off. Consequently, it is unclear if the income gap will necessarily be lowered under the minimum wage policy.
- Minimum wage policy also causes wage-push inflation in the economy which results in other macroeconomic objective trade-offs. This can result in a loss of competitiveness of the Singapore economy as its goods and services become more expensive relative to its trade competitors. Firms will also experience a reduction in profits as labour costs increase. Unprofitable firms will shut down further contributing to unemployment and this will worsen the income gap problem.
- The rise in inflationary pressures will also contribute to rising cost of living and result in a reduction in real incomes and purchasing power, negatively affecting the lower income earners significantly (most of whom are fixed income earners), worsening the effects of income inequality.

Reasoned Conclusion/Evaluation

- Ultimately, in the light of globalisation and increases in the threat of competition, the Singapore government has been developing a more comprehensive welfare transfer programme complemented with increasing emphasis on retraining so as to ensure that the competitiveness is not be compromised in the government's attempt to close the income gap.
- In view of an ageing population in Singapore, direct income redistribution as a means of increasing incomes for this group is an immediate solution.
- Both demand and supply-side policies complement each other as in the short run, unforeseen events such as the current Covid-19 crisis may hit the lower income households harder due to a lack of savings and hence a need to maintain a basic standard of living and access to key services, demand management policies are required
- Singapore may be improving its income inequality but its wealth inequality is becoming worse. (Extract 6) .The distribution of wealth among the population is substantially more unequal than the distribution of income. Thus shifting the tax regime to wealth tax in the form of either a property gains tax or an inheritance tax can work better to achieve inclusive growth.
- However, in the long-run, supply-side policies such as education and retraining are key. In a world in which technological change is increasing productivity and simultaneously mechanising jobs, raising skill levels is critical for reducing the dispersion of earnings. Improving education quality, eliminating financial barriers to higher education, and providing support for apprenticeship programs are all key to boosting skill levels in all sectors. These policies can also help improve the income prospects of future generations.
- The openness of the Singapore economy also allows free mobility of capital, leading to a large increase in the pace and frequency of structural changes in the economy.
- Therefore, policies focusing on reducing occupational immobility is instrumental to achieve inclusive growth in Singapore as direct income distribution is not sustainable, especially with an ageing population to support.

Mark scheme:

Knowledge, Application/Understanding, Analysis		
L2	<ul style="list-style-type: none">• Answer presents well-balanced arguments of demand and supply-side policies to achieve inclusive growth.• Economic analysis is well-developed throughout, argument is coherent.• Answer makes good use of relevant contextual examples from case study to support arguments.	5-7
L1	<ul style="list-style-type: none">• Answer presents some arguments of demand and supply-side policies to achieve inclusive growth• Analysis is not well-developed, gaps in analysis• Answer presents either supply side with limitation or demand side with limitation• Some attempt to contextualise using examples from case study	1-4
E2	<ul style="list-style-type: none">• Evaluation is thorough and based on economic analysis.• Ability to recognise that there is a need to consider the cause of the problem and country's unique characteristics before deducing its appropriateness	2-3
E1	<ul style="list-style-type: none">• For unexplained evaluative comments. Mere listing of stand / weak evaluative comments.	1



NANYANG JUNIOR COLLEGE

2021 JC2 Preliminary Examination

H2 ECONOMICS

Paper No: 9757/02
16th September 2021
Thursday

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.

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 Plant-based meat, also known as vegan meat, are products designed to imitate meat. The price of soy, which is the main ingredient of a majority of vegan meat, have almost doubled since 2020. Campaigns encouraging consumers to go meatless for health and ethical reasons have converted many to go on a vegan diet, which involves eating only food comprising plants.
- Discuss how the combination of a rise in the price of soy and campaigns to go vegan, might affect expenditure by consumers on meat such as poultry and vegan meat. [25]
- 2 "Former Singtel group CEO Chua Sock Koong said in an interview with Bloomberg: "The only way (a fourth telco) can gain customers will be by way of reducing prices ... The existing operators would look at how best to respond. Clearly just leading prices down, it's not good for the sustainability of the industry."
- Source : Bloomberg: April 2021
- (a) Explain which market structure best describes the telco market in Singapore. [10]
- (b) Discuss whether competition is the main reason for falling prices in the telco market. [15]
- 3 (a) Explain how the price mechanism allocates scarce resources in a free market. [10]
- (b) Discuss the view that government intervention can never lead to a more efficient allocation of resource when the free market fails. [15]

Section B

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

- 4 The COVID-19 pandemic has led to a severe contraction in economic activity both in Singapore and globally, due to the combination of supply chain disruptions, travel restrictions imposed in many countries and a sudden decline in demand. The Singapore economy will enter a recession this year, with GDP growth projected at -4% to -1%.

Source: Macroeconomic Review, April 2020, MAS

In view of the effects of COVID-19 pandemic on the Singapore economy, discuss whether the Singapore government should adopt monetary policy centered on exchange rate rather than discretionary fiscal policy to bring the economy out of recession.

[25]

- 5 (a) Explain the various causes of unemployment. [10]
- (b) A top IMF official on Friday warned that the global public debt is expected to exceed 100 per cent of the GDP in 2020-21, and the average overall fiscal deficit is expected to soar to 14 per cent of the GDP in 2020, pointing out that never have public debt and deficits risen so high and so fast.

Source: The Economic Times, 10 July 2020

In view of the unprecedented high level of government debt and fiscal deficit, discuss whether a government should adopt interest rate based monetary policy to address the high rate of unemployment in the country.

[15]

- 6 (a) Explain the possible causes of a balance of payment deficit in the current account. [10]
- (b) Discuss whether a balance of payment deficit in the current account would hinder a government's efforts to achieve both macroeconomic and microeconomic aims. [15]

***** End of Paper*****

1 Plant-based meat, also known as vegan meat, are products designed to imitate meat. The price of soy, which is the main ingredient of a majority of vegan meat, have almost doubled since 2020. Campaigns encouraging consumers to go meatless for health and ethical reasons have converted many to go on a vegan diet, which involves eating only food comprising plants.

Discuss how the combination of a rise in the price of soy and campaigns to go vegan, might affect expenditure by consumers on meat such as poultry and vegan meat. [25]

Synopsis

There is a need to analyse the impact on consumer expenditure on meat and vegan meat considering changes in demand and supply factors. The implications of PED and XED is required when considering the impact of changes in demand and supply on consumer's expenditure. As both demand and supply are changing, the relative shift in demand and supply has to be considered.

Intro

Price and output of meat and vegan meat are determined by the free market via the interaction of demand and supply.

Body

1. Changes in the expenditure on vegan meat due to rising soy prices

Soy is a factor of production that is used in the manufacturing of vegan meat. A rise in the price of soy, raises the cost of producing vegan meat. This will lead to a fall in the supply of vegan meat.

The falling supply of vegan meat leads to a rise in the price and the fall in the equilibrium quantity of vegan meat.

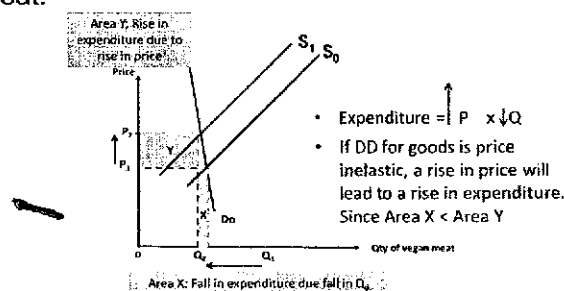


Figure 1

Since price rise and quantity falls, the impact on expenditure would depend on the PED for vegan meat.

- PED < 1

As there are very few substitutes to vegan meat, the PED for vegan meat is expected to be less than one. Since the PED < 1 for vegan meat, a rise in the price will lead to a less than proportionate fall in the quantity demanded for vegan meat. This leads to a rise in the expenditure on vegan meat. (see Fig 1 : explain area A and C)

- PED > 1

Vegan meat is relatively more expensive than meat. As their prices are high, they take up a large proportion of one's income. Hence their PED > 1 where a rise in price would lead to a more than proportionate fall in the quantity demanded. Hence a rise in the price of vegan meat would lead to a fall in expenditure on vegan meat. (Figure 2)

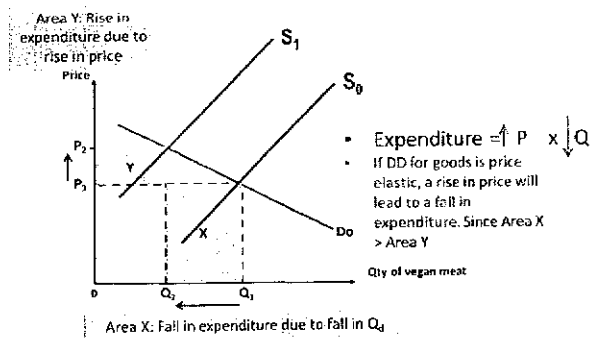


Figure 2

2. Changes in the expenditure on vegan meat due to campaigns to go vegan
 "Campaigns encouraging consumers to go meatless for health and ethical reasons have converted many to go on a vegan diet". As there is a favourable change in preference for vegan diet, there would be a rise in the demand for vegan meat.

The rise in demand for vegan meat would lead to a rise in the price and quantity of vegan meat purchased. This leads to greater expenditure on vegan meat from OP_0AQ_0 to OP_1BQ_1 (Figure 3)

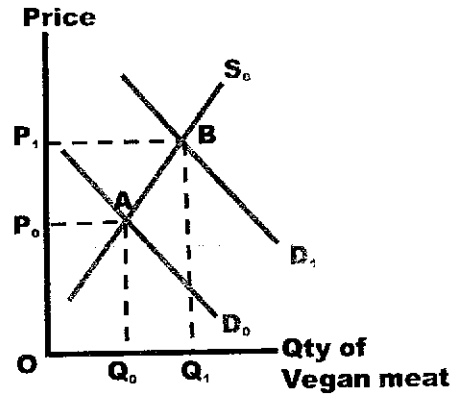
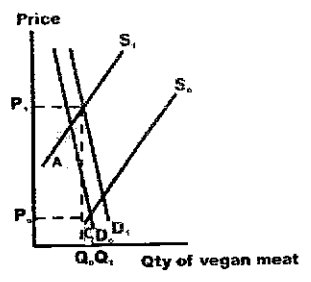


Figure 3

3. Overall change in expenditure on vegan meat.
 The fall in supply could lead to a fall or a rise in the expenditure on vegan meat depending on the PED.
 The rise in demand for vegan meat would lead to a rise in the expenditure on vegan meat. Hence changes in demand and supply would alter the expenditure on vegan meat.

- Impact on expenditure when demand rises and supply fall but PED vegan meat is less than one.
 In this case the rise in demand and the fall in supply both leads to a rise in expenditure. Hence there is an overall rise in expenditure as price would rise and quantity would fall less than proportionately. (Figure 4)



- Impact on expenditure when demand rises and supply fall but PED vegan meat is more than one.
In this case the fall in supply leads to falling expenditure but the rise in demand leads to rising expenditure. The impact on expenditure can be determined by the relative shifts in demand and supply.

If the supply falls more than the rise in demand, expenditure would fall, as this would lead to a rise in price accompanied by a larger than proportionate fall in quantity.(Figure 5)

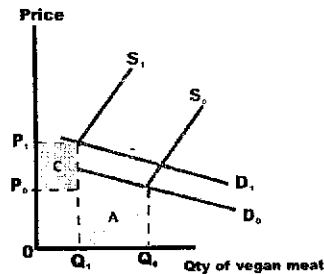


Figure 5

However if demand rises more than the fall in supply, price would rise and so would the quantity. This would lead to rising expenditure on vegan meat.(Figure 6)

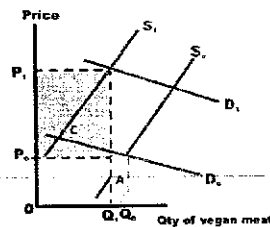


Figure 6

The expenditure on vegan meat is likely to rise as:

- It is likely that the supply of vegan meat would have fallen more than the rise in demand for vegan meat as soy prices have almost doubled and it is the main ingredient in the manufacture of vegan meat.
- It is also likely that the PED for vegan meat is less than one due to the lack of substitutes. Even if vegan meat was more expensive it is unlikely to take a very high proportion of one's income.

4. Changes in the expenditure on meat due to campaigns to go vegan on meat market

As more people turn to vegan diet, the demand for meat would fall. The fall in demand for meat would lead to a fall in both equilibrium price and quantity of meat. This leads to falling expenditure on meat from OP_0AQ_0 to OP_1BQ_1 (Figure 7)

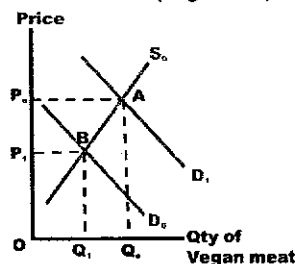


Figure 7

5. Impact of rising price of vegan meat on meat market

With the fall in supply and the rise in demand for vegan meat, the price of vegan meat would rise. Since vegan meat and meat are substitutes, the rise in the price of vegan meat would lead to people consuming vegan meat to turn to meat instead.

The extent of the rise in demand for meat would depend on the Cross elasticity of demand for meat wrt price of vegan meat.

Since meat and vegan meat are substitutes, the XED for meat wrt price of vegan meat would be positive i.e a rise in the price of vegan meat would lead to a rise in the demand for meat. However the degree of substitutability would determine the magnitude of the XED between meat and vegan meat.

Although vegan meat are "designed to imitate meat" they are weak substitutes as they taste very different and have different texture. They also have different nutrients and on ethical grounds worlds apart. Being weak substitutes the XED magnitude is expected to be less than one.

Hence a rise in the price of vegan meat would lead to a less than proportional rise in the demand for meat. This leads to rising expenditure on meat. The impact is similar as that seen in Fig 3, where expenditure for meat will rise from OP_0AQ_0 to OP_1BQ_1 .

6. Overall expenditure on meat.

With a fall in the demand for meat due to the campaigns to go vegan and the rise in the demand for meat due to rising price of vegan meat. The overall demand for meat could either rise or fall.

If there is an overall fall in the demand for meat, equilibrium price and quantity would fall. This would lead to a fall in the expenditure on meat as seen in Figure 7

However if there is an overall increase in the demand for meat, equilibrium price and quantity would rise, leading to a rise in the expenditure on meat.

Since the XED is small and people are converting to a vegan diet, it is expected that the demand for meat would overall fall. This would lead to an overall fall in the expenditure on meat.

Conclusion

The impact on expenditure on meat and vegan meat would be dependent on the PED of vegan meat and XED of meat with respect to price of vegan meat.

PED and XED does not remain constant over time and is influenced by consumers taste and preference as well as changes in the availability of substitutes. Hence the analysis that was presented would change over time. For example, with more R&D on plant based meat, it could be possible that one day plant based meat could resemble meat in terms of texture and taste. This would make it a very substitute.

In addition the analysis was based on several assumptions of the PED and XED values of vegan meat and meat as well as the outcome of the campaign to go vegan. A more accurate analysis could be provided if information on the PED and XED as well as price changes in vegan meat was made available. Details on the success of the campaign to go vegan would also help decide the extent of the shift in the demand for meat and vegan meat.

Lastly, the analysis explained the impact of rising soy price and campaign to go vegan on the vegan meat market followed by impact on the meat market. The outcome would differ if analysis was done on the meat market first, followed by impact on the vegan meat market.

Hence although a plausible analysis on expenditure was presented, there could be an alternate outcome if other factors such as changes in consumer taste and preference,

information on PED, XED and the extent of the success of the campaign to go vegan as well as the starting point of the analysis were considered.

Knowledge, Understanding and Application		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> ✓ Good analysis of how expenditure on meat and vegan meat are influenced by relative shifts in demand and supply as well as PED and XED • Answer has sufficient depth: <ul style="list-style-type: none"> ○ Rigorous, detailed and precise economic analysis of changes in expenditure on vegan meat and meat taking into account the necessary theoretical assumptions. 	15 – 20
L2	<ul style="list-style-type: none"> • Brief analysis of the effects of the events that are mentioned in the preamble. <ul style="list-style-type: none"> ✓ Adequate analysis of how expenditure on meat and vegan meat are influenced by relative shifts in demand and supply as well as PED and XED • Theoretical assumptions are not mentioned in the analysis • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	9 – 14
L1	<ul style="list-style-type: none"> • Answers did not include (or only brief) analysis of the effects of the events that are mentioned in the preamble. • DD and SS analysis are unclear and/or inaccurate • Lacking in use of diagrams or wrong diagrams are used. • Answer mostly irrelevant and/or inaccurate. 	1 – 8
Evaluation		
E3	<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 by synthesizing the pros and cons of the analysis covered in the body paragraphs, • providing insightful opinion(s) that demonstrate good contextual knowledge 	4 – 5
E2	<p>For an overall answer which is only partially substantiated</p> <ul style="list-style-type: none"> • Attempt to substantiate the stand but is not directly relevant to question requirement. • The overall stand was substantiated by providing explanation on the importance of some points covered in the body paragraphs in forming the stand • Provides insightful opinion(s) which are however not directly relevant to the requirements of the question 	2 – 3
E1	<p>Make a relevant overall stand on the effects of the events that are mentioned in the preamble to the expenditure on vegan meat and meat.</p>	1

- 2 “Former Singtel group CEO Chua Sock Koong said in an interview with Bloomberg: “The only way (a fourth telco) can gain customers will be by way of reducing prices ... The existing operators would look at how best to respond. Clearly just leading prices down, it’s not good for the sustainability of the industry.”

Source : *Bloomberg: April 2021*

- (a) Explain which market structure best describes the telco market in Singapore. [10]
- (b) Discuss whether competition is the main reason for falling prices in the telco market. [15]

Synopsis

There is a need to link the characteristics of oligopoly to the telco industry. Key characteristics that need to be included are few sellers, barriers to entry and interdependence between firms.

Introduction

Market structures are identified by their characteristics. Some of the key characteristics are the number of buyers and sellers in the markets, nature of product, barriers to entry. Telco firms, operates in an Oligopoly market structure.

Body

1. Number of buyers and sellers

There are a few relatively large firms dominating the industry. In the preamble it was mentioned that there are only 4 Telco firms in the market. 'Fewness' implies that the firms are able to set their own price. The small number of firms present in the market would also mean that each firm produces a substantially large output and is able to reap internal economies of scale. Changes in output of the large firm will affect the market output.

2. Nature of product

An oligopoly firm can produce an *identical product* or *differentiated product*. In the Telco market, firms produce differentiated products. These differences are mostly real rather than imaginary. Their product vary in terms of bundles eg talk-time and data bundles. Some even provide mobile data sharing with family members and free use of mobile data on weekends. Due to product differentiation, each firm has monopoly power and they usually engage in non-price competition.

3 Barrier to Entry

Barriers to entry are obstacles that prevents new competitors from competing on an equal basis with established firms in an industry. The obstacles may be naturally existing or artificially created by firms. High barrier to entry exist in the Telco market. They come in the form of both natural and artificial barriers.

a. Natural BTE

- High (Fixed) Cost.

Firms in the telco industry experiences high fixed cost especially in setting up their firm. For example, to supply telco services to households, the fixed inputs required would be to lay underground cable lines at different locations, which would be a complicated and costly activity. With a high fixed cost, total cost ($TC=TFC+TVC$) would also be high. A high fixed cost discourages the less financially able firms from entering the industry due to the high capital requirements.

- High Sunk Costs

Sunk costs are costs that *cannot be recovered* if firms decide to leave an industry. Examples include money spent on advertising, marketing or research which cannot be carried forward into another market or industry if a firm decides to leave the telco market. High sunk costs act as a *barrier to entry* of new firms since they risk making huge losses if they decide to leave the market.

b. Artificial Barrier

- Requirement of Licences in order to operate

One key artificial barrier in the telco industry is the need for government licence in order to operate. In Singapore the government keeps a close tab on firms wanting to enter the telco industry. It limits competition by requiring new firms to obtain a licence in order to operate.

- Strategic (Artificial) Barriers by Incumbent Firms

Firms in the telco industry in Singapore such as SingTel and Starhub and M1, spend millions creating a brand name. Having a strong brand works to build customer recognition. Consumers are far more likely to choose a brand that they recognize over other unfamiliar brand. The strong brand name also help build brand loyalty. Hence establishing a strong brand name can be a barrier, as a new entrant will have difficulties competing with an established brand.

4. Interdependence

From the preamble, "The existing operators would look at how best to respond". Hence there is interdependence in the telco market. Such unique feature is only present in the Oligopoly market structure. The small number of firms ensures interdependence, where each firm is aware that its future prospects depend not only on its own policies (pricing or otherwise), but also those of its rivals, thus creating uncertainty in such markets.

When a firm wants to change its price or output, it will consider the other firms' possible reactions before actually proceeding with the change. It has to make certain assumptions about its rivals' possible response in order to make a decision. For example if a firm wants to lower its price, it may suspect that rival firm will follow suit and hence may choose not to lower its price! This can be seen in the kinked demand curve where firms will 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.

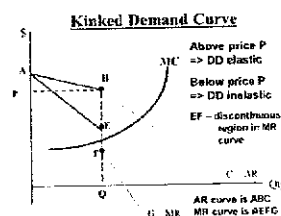


Fig 1

Conclusion

The fact that the preamble explains that with the entry of a new firm "The existing operators would look at how best to respond, highlights interdependence which is only peculiar to the oligopoly market.

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth (at least 3 different characteristics {must include interdependence} of Oligopoly that is linked to the telco industry.) • Answer has sufficient depth: <ul style="list-style-type: none"> ○ rigorous and detailed economic analysis with the use of economic framework and clear link of the telco industry to the characteristics of oligopoly. ○ relevant and accurate use of economic concepts; ○ Answer is relevant and applies real-world examples to support the analysis. (9-10m) 	8–10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to the question requirements with sufficient breadth: <ul style="list-style-type: none"> - good explanation of 2 characteristics (with rigour and use of real-world examples to illustrate), or - adequate explanation of 3 characteristics of oligopoly with clear links to the telco industry that 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. 	5–7
L1	<ul style="list-style-type: none"> • Adequate explanation of only one characteristic of oligopoly or descriptive explanation of 2 characteristics without economic framework and/or clear link to the telco industry. • Unclear and/or inaccurate economic analysis. 	1–4

- (b) Discuss whether competition is the main reason for falling prices in the telco market. [15]

Synopsis

There is a need explore various reason that could lead to a fall in prices in the telco market including competition

Introduction

In an oligopoly market, firms are price setters and hence prices are determined by firms.

Body

1. Explain why more competition might lead to lower prices.

Assuming, firms aims to maximise profits, firms will determine its profit maximising output where $MC=MR$ and determines price using the AR which is also the demand curve. Increase competition \rightarrow larger number of firms \rightarrow lower demand for each firm and demand will be more price elastic. This leads to lower price and lesser quantity sold. (Draw)

2. Objective of market dominance due to rise in competition

In Oligopoly, firms react to changes in the market. With rising competition, the firm may end up with lower market share. In an attempt to increase the firm's market share such that the firm could dominate the market, decisions could be made with the aim of driving rival firms out of the market.

One way of driving rival firms out of the market is to engage in predatory pricing. Predatory pricing occurs when a firm sells a good or service at a price below cost with the intention of forcing rival firms out of business. This option can be undertaken by the incumbent firm that has sufficient past profits to cope with the losses incurred in the process.

As seen in the figure below, the firm has moved away from the profit maximizing price by charging a lower price to achieve its objective.

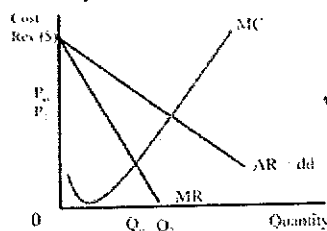


Fig 2

Over time, rival firms might not be able to cope with the losses incurred as a result of matching the low prices set by this firm and choose to exit the market. This results in the incumbent firm increasing its market share and corresponding level of market power. Even though Predatory pricing is illegal in several countries, it does occur.

Although lower prices are better for consumers, the increase in monopoly power could lead to higher prices and lesser choices for for consumers in the long term, once competition is eliminated.

3. Competition can spur firms to process R&D, leading to lower prices

When faced with competition, firm may engage in process R&D to lower its cost. With falling MC, this could lead to lower prices.

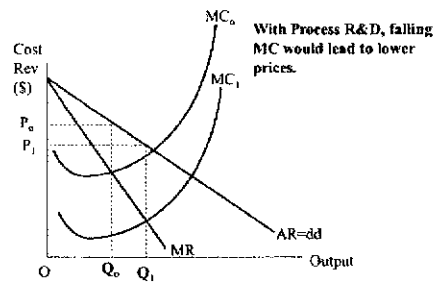


Fig 3

4. Competition and price rigidity in an oligopoly

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. Hence competition does not lead to lower prices. Firms will choose to use non-price competition instead. Non-price competition consist of product promotion and product development.

Firms are often in fierce competition with other firms offering a similar product or service, and may need to advertise (product promotion) to let customers know their differences (ie physical differences, marketing differences, human capital differences and distribution differences). Product development aims to produce a good that is different from the rivals' products. Firms tend to engage in product innovation to achieve this.

Non-price competition is mostly used in a non-collusive oligopoly which has price rigidity.

5. Falling prices could be due to collusion in Oligopoly

Some firms tacitly (by an unspoken agreement) collude by watching each others' prices to avoid price wars or competitive advertising. Firms may choose to follow the prices set by a firm whom they consider a leader in the market.

The leader could be the largest or dominant firm in the market known as Dominant price leadership or a firm whose prices reflect market conditions in the most satisfactory way, known as Barometric price leadership.

Hence the leader could choose to lower its price perhaps due to falling demand in the market or even falling cost of production. Once the leader lowers its price, other firms would collude.

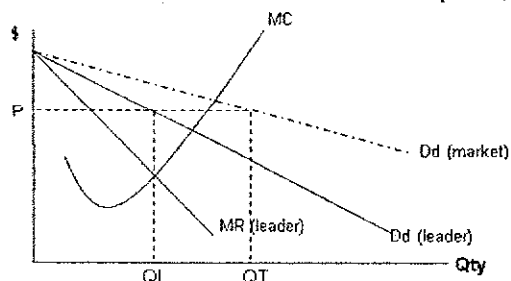


Fig 4

For example the leader may choose a lower price P . In order 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 lower price.

6. Falling prices could be due to improvement in technology

Production cost may fall over time due to falling cost of factor inputs or even due to improvement in technology. With technological improvements, productivity of firms will rise.

This leads to falling marginal cost, as seen in Figure 3. The falling marginal cost will enable firms to charge a lower price.

Conclusion

Although prices can fall due to increased competition, there are equally other reasons that could lead to falling prices in an oligopoly market. In fact in the telco market the main cause of falling prices are due to tacit collusion as well as improved technology.

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question-requirements and covers sufficient breadth (at least 3 reasons that relates falling prices in an OLIGOPOLY market due to competition and other possible reasons) • Answer has sufficient depth: <ul style="list-style-type: none"> ○ rigorous and detailed economic analysis with the use of economic framework and clear link of the possible reason for falling prices in an Oligopoly such as the telco industry. ○ relevant and accurate use of economic concepts; 	8-10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to the question requirements with sufficient breadth: <ul style="list-style-type: none"> - good explanation of at least 2 reason that relates falling prices in an OLIGOPOLY market due to competition and other possible reasons (with rigour and use of real-world examples to illustrate), or - adequate explanation of 3 reasons that relates falling prices in an OLIGOPOLY market due to competition and other possible reasons) that 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. 	5-7
L1	<ul style="list-style-type: none"> • Adequate explanation of only one reason that relates falling prices in an OLIGOPOLY market due to competition or other possible reasons without economic framework and/or clear link to the telco industry. • Unclear and/or inaccurate economic analysis. 	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 the relative importance of the factors covered in the body and supported by economic analysis. 	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: Is competition the main reason for falling prices in an oligopoly market structure? 	1

- 3 (a) Explain how the price mechanism allocates scarce resources in a free market. [10]
- (b) Discuss the view that government intervention can never lead to a more efficient allocation of resource when the free market fails. [15]

Synopsis:

There is a need to explain the assumptions of the price mechanism (PM) as well as how the PM decides on What To Produce, How To Produce, How Much To Produce and For Whom to Produce. An overall conclusion on the success of the PM to allocate resources efficiently would depend on the assumptions would be good.

Suggested Answer:

Introduction:

- Unlimited wants and limited resources, leads to scarcity. Due to scarcity, it is important to allocate resources efficiently.
- The PM is a means by which consumers and firms interact to determine the allocation of scarce resources between competing uses. The PM allocates resources in a free market.

Body

1. Decisions to be made

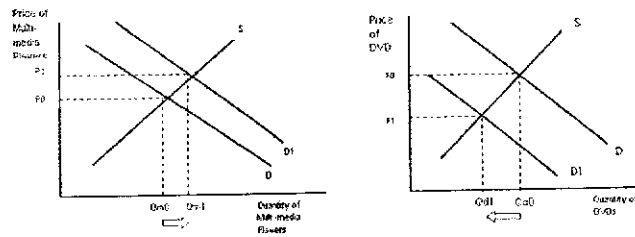
- Decisions that need to be made to allocate resources between competing uses consist of What to produce, How to produce, How much to produce and For whom to produce.

2. Assumption of the Price Mechanism

- Free Market : Production is only carried out by firms - No government intervention
- Decision making is based on self-interest; Producers seek to maximise profits and consumer seeks to maximise satisfaction
- Perfect Market Conditions :
 - Perfect information in the market
 - Factors of production are perfectly mobile
- Production and consumption does not generate externalities

3. How the Price Mechanism Decides "What to Produce?"

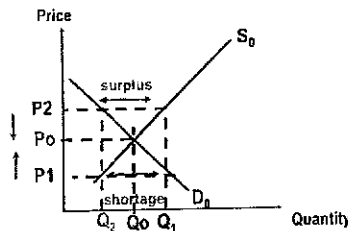
- Producers, in serving their self-interest (profit), produce goods wanted by consumers. Consumer Decides What is to be Produced : Consumer Sovereignty! Consumer is King!
- Eg : Suppose there is a change in preference from DVD player to Multimedia player. An increase in DD for multimedia player, leads to a shortage and hence price rises. The rising price attracts producer as profit would have increased. This leads to an increase in qty SS. Producers reallocate resources from DVD players to multimedia player.



- Simultaneously, the fall in DD for DVD player results in a surplus and hence a fall in price. The falling price leads to lower profits and hence a fall in qty supplied. This leads to reallocation of resources from production of Multi media players to DVD players

4. How the Price Mechanism Decides “How Much to Produce?”

- Prices act as a signal to shortages and surpluses. When shortages exist, e.g at Price P1, prices would rise. As producers are profit motive, they produce more when prices are rising.



As they produce more, there will be less shortages. They will keep on producing upto Q_0 until price stop rising i.e where there is no more shortages.

- When surplus exist, e.g at Price P2, prices would fall. As producers are profit motive, they produce less when prices are falling. As they produce less, there will be less surpluses. They will cut production to Q_0 where price stop falling i.e where there is no more surpluses.
- Hence output produced is just enough such that neither shortage nor surplus occurs. Since output in the market occurs where $DD=SS$, $CS + PS$ are at maximum and hence allocative efficiency is achieved.

5. How the Price Mechanism Decides “How to Produce?”

- Producers seeking to maximize profits will choose the cheapest method of production. In deciding between capital or labor intensive production methods, producers will choose the method that results in the lowest possible cost of production. This leads to productive efficiency.

6. How the Price Mechanism Decides “For Whom to Produce?”

- The market produces for those who have both the willingness and ability to pay i.e base on demand.

Conclusion

The PM allocates resources efficiently provided that the assumptions regarding the PM is valid. In real life, the assumptions rarely hold and this leads to market failure. Some of the unrealistic assumption would include the absence of externalities, perfect market conditions such as perfect knowledge and perfect factor mobility.

The market also fails in the area of equity, where goods are produced only for those who can afford them. People with low income, may not have the ability to pay and hence will not have access to goods.

Mark Scheme

Knowledge, Understanding and Application		
L3	Developed explanation of how price mechanism answers What to produce, How much to produce, How to produce and For whom to produce. Use of framework is required.	8– 10
L2	Underdeveloped explanation of how price mechanism answers What to produce, How much to produce, How to produce and For whom to produce. Lack of diagram or framework.	5- 7
L1	Superficial answer of the price mechanism, without considering What to produce, How much to produce, How to produce and For whom to produce. E.g simply using DD and SS.	1 – 4

- (b) Discuss the view that government intervention can never lead to a more efficient allocation of resource when the free market fails. [15]

Synopsis:

There is a need to explain possible causes of market failure with illustration on how government intervention may lead to a more efficient allocation of resources. Explanation of situations where government failure may arise is required.

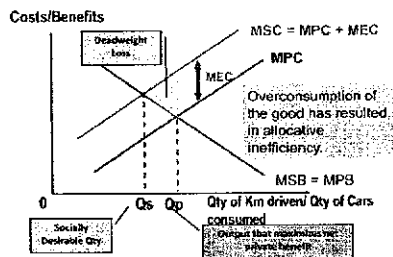
Introduction

- Although the price mechanism is used in the free market to allocate resources, market failure may occur due to several reasons.

Body

1. Market failure due to the presence of externalities.

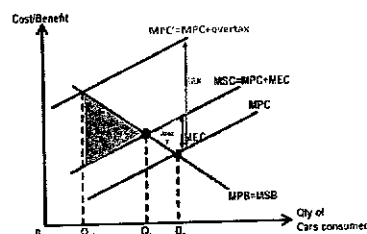
- Market Failure occurs when negative externalities are present. For example, in consuming cars, pollution and congestion leads to market failure.
- In consuming goods, the consumer derive benefits and accrue cost. Some of the Total private benefits of car consumption are convenience, shorter travel time, status symbol etc. The Total private cost accrued in car consumption are maintenance cost of the car e.g wear and tear, petrol, road tax etc. Consumers of cars wants to maximise their NPB. Hence consumption takes place at output Q_p where $MPB = MPC$



- The 1st party consumption of cars, leads to a congestion and pollution. This affects 3rd parties. Third parties such as firms who hire workers, might face higher cost of production due to their workers coming in late for work as they get stuck in traffic. Their workers may also be affected by the pollution created by car consumption and hence report sick more often. This also raise their cost of production.
- Negative 3rd party side effects, causes a divergence between private cost and social cost. Since ONLY Neg Ext exist, $MPB=MSB$. BUT there is a divergence between MSC and MPC ($MSC>MPC$). In order for Net Social Benefit to be maximum, consumption should be at Q_s , where $MSB=MSC$. Hence there is an overconsumption of goods and services that results in allocative inefficiency. A Dead weight loss is incurred.
- Government intervention such as electronic road pricing (ERP) can help address the market failure. It is a market based approach as it directly affect cost of driving. It is regarded as a tax on car usage.
- Intended to make drivers internalize the external costs they are inflicting when driving their cars. By assuming indirect tax per unit = MEC, it causes the MPC to shift up to $MPC' = MPC + ERP$, where it coincides with the MSC . MEC is internalized by the drivers and the divergence between the MSC and MPC is closed. The number of cars driven has decreased from Q_p to Q_s , where it is now at the socially desirable level. Allocative efficiency is attained.

Evaluation

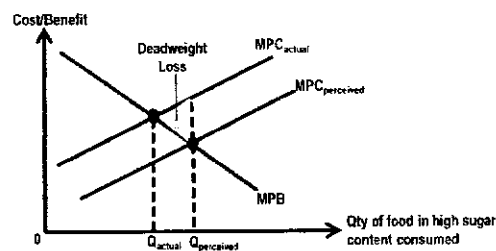
- Flexible : If the optimal speed range (congestion is measured by car speed) is not attained, ERP charges will be increased to reduce the traffic flow, thereby reducing congestion.
- Forces the drivers to be directly responsible for the external costs. Drivers have to either drive earlier to pay lower ERP charges or take public transport.
- An incentive to use lesser private transport, reducing traffic congestion.
- Difficult to put a monetary value to MEC. Govt's inability to calculate the true costs of the negative externalities. Some external costs cannot be calculated in monetary terms (explain why!).
- Hence there is a possibility that government may end up over or under-taxing. With overtaxing, it is possible that the new consumption can be very much lower than the socially optimal output such that the DWL is larger after the imposition of the tax compared to the initial situation. This would lead to government failure!



- Hence even though government intervention can lead to a more efficient allocation of resources, where information is lacking, too high a tax can lead to worsening of the market failure where government intervention is concerned.

2. Market failure due to imperfect information

- Some goods that are high in sugar, e.g sugary drinks are overconsumed out of the lack of knowledge. Where Perceive Cost < Actual Cost in consuming sugary drinks
- When consuming such goods, consumer weigh their cost and benefits. MPB – enjoyment of the taste; MPC_{perceived} – price of the drink itself
- They may fail to consider the possible long-term damage that consuming sugary drinks may have on their health (obesity and diabetes). Hence the MPC_{actual} > MPC_{perceived}
- The reason for the lack of knowledge is because the health problems it may cause are often slow to occur and often do not show any outward signs until the problem is quite advanced



- Hence there is an overconsumption as $Q_{actual} > Q_{perceived}$ and there a DWL. Thus the market has failed.
- In such situation, there is a need for government to intervene. The main function of the government is to help consumers be aware of the actual cost of consumption of these goods. Where Moral Suasion or Legislation can help.
- Moral Suasion : Public campaigns to educate the general population on the dangers of consuming too much sugar
- Laws and Regulation – labelling (drinks with healthy amounts of sugar can be given a label that identifies them as healthier alternatives)
- Both these approaches tries to change the perception and the tastes and preferences of the consumers.
- When consumers understand the full costs involved in consuming too much sugar they would **re-think their decision and consume at where $MPB = MPC_{actual} \rightarrow Q_{perceived}$ is reduce to Q_{actual} (addresses the overconsumption problem)**

Limitations

- Effectiveness of campaigns not always certain : Sugary food/drinks can prove to be habit-forming \rightarrow difficult to change the tastes and preferences of these consumers
- Although labels are provided, consumers may not understand how the ingredients would affect them and hence they may simply continue consumption.
- Even if the policy is time consuming, it would lead to a more efficient allocation of resources as compared to the free market as $Q_{perceived}$ falls. In such cases it is unlikely to lead to an underconsumption of goods.

Conclusion

It is important that there should never be over reliant on the price mechanism to allocate resources. The intervention of the government can be useful to adjust over/under production or consumption of goods and services. At times, there may be government failure due to the lack of information. However, once these over reactions are identified, they can be adjusted such that the market moves towards a more desirable outcome.

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth (at least 2 scenario where the free market fails and government intervention has limitation) • Answer has sufficient depth: <ul style="list-style-type: none"> ○ Rigorous and detailed economic analysis with the use of economic framework and clear link of the failure of the free market with limitation of government intervention. ○ Relevant and accurate use of economic concepts; 	8-10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to the question requirements with sufficient breadth: <ul style="list-style-type: none"> - Good explanation of 1 scenario where the free market fails and government intervention has limitation (with rigour and use of real-world examples to illustrate), or - Adequate explanation of 2 scenario where the free market fails and government intervention has limitation that 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. 	5-7
L1	<ul style="list-style-type: none"> • Adequate explanation of only one scenario where the free market fails and government intervention has limitation without economic framework. • Unclear and/or inaccurate economic analysis. 	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 the relative importance of the factors covered in the body and supported by economic analysis. 	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: that government intervention can never lead to a more efficient allocation of resource when the free market fails. 	1

2021 JC2 H2 Economics
Prelim Exam Paper 2 Section B

4. The COVID-19 pandemic has led to a severe contraction in economic activity both in Singapore and globally, due to the combination of supply chain disruptions, travel restrictions imposed in many countries and a sudden decline in demand. The Singapore economy will enter a recession this year, with GDP growth projected at -4% to -1%.

Source: Macroeconomic Review, April 2020, MAS

In view of the effects of COVID-19 pandemic on the Singapore economy, discuss whether the Singapore government should adopt monetary policy centered on exchange rate rather than discretionary fiscal policy to bring the economy out of recession. [25]

Synopsis:

Students are to analyse the impacts of supply chain disruptions, travel restrictions and decline in demand on the Singapore economy with the use of AD-AS framework. Focus of the analysis is for students to demonstrate their knowledge of AD and AS factors in explaining the fall in SRAS and AD, and the subsequent impact on real national income (recession). While the students are expected to explain how ERP and discretionary FP can alleviate the issue of recession in Singapore, whether ERP is a more appropriate measure than FP would depend on whether the various policies can address the root causes, and the limitations in their effectiveness in view of the context of global recession. Students would need to provide a synthesised judgement on which policy is more appropriate for Singapore government by taking into account of the factors discussed in the essay.

Suggested Answers:

Introduction:

- Define recession: Technical recession - fall in RNY for 2 consecutive quarters
- Outline the effects of the events in preamble and their effects on Singapore's AD and AS
- Define ERP and discretionary FP

Content:

- **Effects of the events on Singapore economy:**
 - **Supply chain disruption** - due to closure of borders that affect both aviation and shipping industries, limited supply of intermediate goods and services,

and resources will lead to an increase in costs of production causing a fall in SRAS.

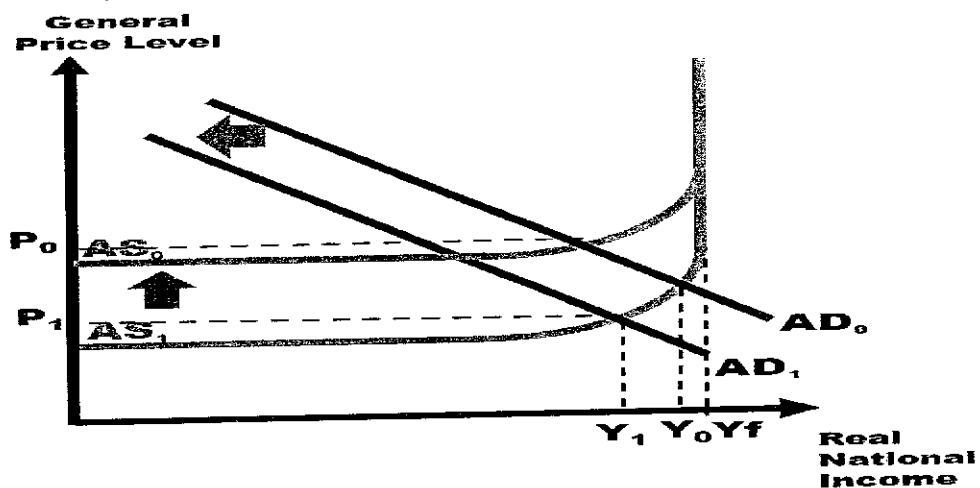
- **Travel restrictions** – travel restrictions by countries adversely affect tourism industry, significantly affect Singapore’s export revenue due to large fall in tourist spending, leading to a fall in AD.

- **decline in demand** - the adverse impact on tourism industry had caused a severe fall in demand for service industry spanning from aviation, hotels, food and beverages outlets and transportation services. The ripple effects on the economy is wide spread and pessimism on job security and fall in future income had resulted in residents in Singapore to be more cautious in their spending and save more for possible job losses. This will lead to a fall in consumption expenditure, hence AD.

- The fall in AD from AD_0 to AD_1 will lead to an excess of goods and services in Singapore causing firms to reduce production. As more labour become redundant due to a fall in demand for labour, since labour is a derived demand, this will lead to cyclical unemployment, and wage cuts for those who still retain employment. The fall in income will lead to further cut in consumption expenditure causing another round of reduction in production and income. Eventually, the fall in Singapore’s real national income (RNY) from Y_0 to Y_1 will be a multiple of the initial fall in AD due to the multiplier effect, causing recession.

- The fall in SRAS from AS_0 to AS_1 will compound the effect of a fall in AD on the RNY; causing further decline in RNY and worsening employment level.

- As Singapore was close to full employment level prior to the Covid-19 pandemic, the effect on Singapore’s general price level (GPL) will depend on the extent of fall in AD and SRAS. Given the significant fall in foreign and domestic demand, it is expected that the fall in AD will outweigh the SRAS, leading to a fall in GPL (deflation). While this might possibly reduce the cost of living in Singapore, pessimism in the economy might cause firms to expect lower prices in the future, hence lower returns on their investments. This will stunt investment expenditure, causing further decline in AD and bringing the economy into a downward spiral.



Explain how ERP can bring Singapore economy out of recession: Depreciating Singapore dollar (SGD)

- Monetary Authority of Singapore (MAS) can depreciate SGD by selling SGD and buying foreign currencies in the international foreign exchange market.
- This will make Singapore exports cheaper in foreign currency and imports more expensive in domestic currency.
- Assuming demand for Singapore exports and imports are price elastic in demand, depreciation will increase export revenue (X) as foreigners will be more inclined to purchase Singapore's exports since they are now relatively cheaper than the domestic goods. At the same time, the increase in price of imports will cause consumers in Singapore to switch to domestic substitutes as they are now relatively cheaper than imports, increasing consumption expenditure (C).
- SGD depreciation will reduce the costs of investment in Singapore for foreigners due to the lower foreign currencies needed to invest the small of SGD, raising the expected returns of investment in foreign currencies. This will increase investment expenditure (I) in Singapore.
- The increase in X, C and I will increase AD, through the multiplier effect, will increase Singapore's RNY by a multiple of increase in AD, mitigating the issue of recession in Singapore.

Explain how ERP can bring Singapore economy out of recession: Appreciating Singapore dollar (SGD)

- By appreciating the SGD through buying SGD and selling foreign currencies, imported factor inputs will be cheaper in domestic currency.
- Given Singapore's heavy reliance on imported resources in view of her small economy starve of natural resources, the fall in import prices will reduce the costs of production (COP) in Singapore, increasing her SRAS.
- While the RNY of Singapore will increase in the short run, the fall in COP will allow exports to be cheaper in the next time period, increasing export demand and X. Thus, the AD will increase in the LR, bring Singapore economy out of recession as well.

Explain how discretionary FP can bring Singapore economy out of recession:

- Singapore government can also choose to adopt expansionary FP by increasing government expenditure (G) on infrastructure development, increasing ministries budget to raise demand for goods and services.
- Government can also increase transfer payments, such as Workfare Income Supplement (WIS) to raise households' disposable income. This will raise their purchasing power, increasing demand for domestic goods and services, causing C to increase.

- Government can reduce direct taxes such as personal income tax (PYT) and corporate tax. The fall in PYT will increase individuals' disposable income and purchasing power, raising C. The fall in corporate tax will increase firms' post-tax profits, increasing investment expenditure (I).
- The increase in G, C and I will increase Singapore's AD and RNY, alleviating the issue of recession in Singapore.

Comparing ERP and FP:

Comparing the limitations of the policies:

- ***The adoption of ERP has its limitations:***

- SGD depreciation to increase X is based on the assumption that there is no change in foreigners' income. However, Covid-19 pandemic has severely affect trade, travel and investments, causing global economy to stall. Most economies recorded unprecedented fall in GDP and high unemployment rate. As such, the fall in export prices will not be able to encourage greater export demand due to the falling foreign incomes. Similarly, the lower costs of investment might not increase in view of the pessimistic outlook of the global and Singapore economy.

- SGD appreciation to reduce COP in order to increase SRAS in the SR and X in the LR, might not be able to reduce COP in Singapore. While SGD appreciation can reduce the import prices, supply-chain disruption has significantly reduce the supply of these resources and factor inputs in Singapore, exerting an upward pressure on prices. This will offset the effect of SGD appreciation in reducing COP, hence increasing RNY.

- ***The adoption of discretionary FP has its limitations:***

- The increase in G on operating and development expenses could cause a strain on Singapore government's budget.

- The fall in direct taxes to increase C and I is highly dependent on consumer and investors' expectations of future income, job security, and profits, respectively.

- **Limitation of demand management policies (SGD depreciation and expansionary FP)**

- The adoption of demand management policies in Singapore is dependent on the size of multiplier. Given Singapore's high MPS due to the compulsory saving scheme (CPF) and Asian's inclination to save, high MPM due to heavy

reliance on imports because of the lack of resources in Singapore, Singapore has a small multiplier implying a small magnitude of increase in RNY when AD increases.

Comparing the effectiveness of policies in tackling the root causes:

- Given Singapore's open and small economy that has resulted in her dependence on international trade and foreign investments, the use of ERP that target exports, imports and foreign direct investment (FDI) can mitigate the adverse effects of the pandemic on the Singapore economy by increasing foreign and domestic demand. Compared to the use of discretionary FP that focuses on raising domestic demand alone, the implementation of ERP seems more appropriate than FP in addressing the root causes of recession in Singapore.

Conclusion: [Synthesis]

- Taking into account of the limitations and ability to tackle the root causes of Covid-19 pandemic on Singapore, the use of ERP seems to be more appropriate. However, **Singapore government should adopt discretionary FP** due to the following contextual considerations
 - Severity of the pandemic that has caused global recession, significantly dented consumer and investor's confidence in spending. Expectation of future income and returns on investment, coupled by the uncertainties on when normalcy will return to global trade and travel, has become a dominant factor in influencing domestic and foreign expenditures. Hence, the increase in X, C and I due to SGD depreciation will not be effective in raising Singapore's AD. Also, the issue of supply-chain disruption would most likely exert upward pressure on import prices given the closure or restricted openings of international borders.
 - The use of discretionary FP might not have targeted the external demand, hence the root causes of recession in Singapore. However, the ability to increase G significantly by the Singapore government would help to mitigate the adverse effects of recession on the domestic economy. The strain on the government budget, hence budget deficit could have resulted in huge debt for governments. But, given the huge government reserves accumulated from past years of budget surpluses, Singapore government is in good stead to draw on these reserves to 'pump-prime' the economy and support low-income families through transfer payments.
 - The small size of multiplier would have dented the effect of increase in G on the RNY. However, the ability of the Singapore government to raise G by large extent could mitigate this limitation of a small multiplier.

- The effects of Covid-19 pandemic on Singapore are mainly externally driven. The adoption of discretionary FP will not be successful in reversing the issue of recession in Singapore. However, it could significantly cushioned these adverse effects on the Singapore economy to avoid wide spread decline in incomes and employment level, hence paralyzing the economy.

Mark Scheme

Knowledge, Understanding and Application		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> ✓ Good analysis of how the various events affect the AD and AS of Singapore ✓ Analysis comprises effects on all macro goals (both domestic and external) ✓ Comprehensive analysis of ERP (both depreciation and appreciation) and expansionary FP ✓ Good discussion on the limitations and comparisons of both policies • Answer has sufficient depth: <ul style="list-style-type: none"> ○ Rigorous, detailed and precise economic analysis of AD-AS and BOP framework taking into account the necessary theoretical assumptions. • Answer demonstrates good contextual knowledge (Singapore) 	18 – 20
	<ul style="list-style-type: none"> • Similar to high L3 except for the following: <ul style="list-style-type: none"> ○ Detailed analysis of the effects of some of the events that are mentioned in the preamble. ○ Analyse the effects of ERP (appreciation / depreciation) and expansionary FP in mitigating the economic issues. ○ Theoretical assumptions are mentioned in some of the analysis. ○ Answer is relevant to the context but examples are theoretical. 	15 – 17
L2	<ul style="list-style-type: none"> • Brief analysis of the effects of some of the events that are mentioned in the preamble. • Adequate analysis of the effects of ERP (appreciation / depreciation) and expansionary FP in mitigating the economic issues. • Brief and unclear analysis of the limitations of some of the policies. • Theoretical assumptions are not mentioned in the analysis • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. • Context of Singapore government is not applied 	12 – 14
	<ul style="list-style-type: none"> • Similar to high L2 except for the following: <ul style="list-style-type: none"> ○ economic concepts / analysis may contain minor inaccuracies; ○ Analysis on the limitations of the policies are not provided. ○ no or limited attempts to address the context of the question where policies discussed might not address the issues in question. 	9 – 11
L1	<ul style="list-style-type: none"> • Answers did not include (or only brief) analysis of the effects of the event on Singapore economy. 	5 – 8

	<ul style="list-style-type: none"> • Analysis did not link to macroeconomic goals • AD-AS and BOP analysis are unclear and/or inaccurate • Brief description of ERP and FP without providing limitations of both policies. • Singapore context was not applied. • Lacking in use of diagrams or wrong diagrams are used. • Answer mostly irrelevant and/or inaccurate. 		1 – 4
Evaluation			
E3	<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 by synthesizing the pros and cons of the policies covered in the body paragraphs, • providing insightful opinion(s) that demonstrate good contextual knowledge 		4 – 5
E2	<p>For an overall answer which is only partially substantiated</p> <ul style="list-style-type: none"> • Attempt to substantiate the stand but is not directly relevant to question requirement. • The overall stand was substantiated by providing explanation on the importance of some points covered in the body paragraphs in forming the stand • Provides insightful opinion(s) which are however not directly relevant to the requirements of the question 		2 – 3
E1	<p>Make a relevant overall stand: On balance, should Singapore government adopt ERP or discretionary FP to alleviate the issue of recession in the Singapore economy?</p>		1

1

2021 JC2 H2 Economics

Prelim Exam Paper 2 Section B

5 (a) Explain the various causes of unemployment. [10]

Synopsis:

Students are to explain the different types of unemployment, namely cyclical, structural and frictional unemployment, and provide real world examples to illustrate them.

Suggested answers:

Introduction

- Define & explain unemployment & how unemployment is calculated.
- Outline the approach to the question.

Content

- **Cyclical or Demand-deficient unemployment**
 - caused by fluctuations in business cycle
 - Explain how a fall in the various components of AD will lead to cyclical unemployment.
 - With the use of Singapore's context, explain how the characteristics of Singapore, being small and open, have caused her economy to be susceptible to external shocks. Recent even of the Covid-19 pandemic has resulted in a sharp decline in global demand → ↓ DD for exports from Singapore → ↓ export revenue (X). At the same time, poor investment sentiment in view of the uncertainties that the pandemic brings, lowers future expected profits leading to a fall in investment expenditure (I). Fall in X and I → ↓ AD → ↓ real national output → ↓ DD for labour as it is in derived DD → ↑ cyclical unemployment.
- **Structural unemployment**
 - caused by structural changes in the economy
 - Structural rigidities and occupational immobility of labour that cause skills mismatch are the main causes of structural unemployment.
 - For example, as a result of globalisation, countries such as China and other low-cost producers of low-end manufactured goods enter the world market and threaten the exports of developed countries. As a result of the closure of these sunset industries that compete directly with those imports, there will be mass unemployment as these industries tended to be labour intensive. However, those who are unemployed are not able to find employment in sunrise industries due to their lack of relevant skills (skills mismatch).
 - Apply to Singapore's context e.g. As Singapore's economy has to cope with globalisation and outsourcing, it has to restructure its economy and in the process, structural unemployment will result e.g. Singapore moved from manufacturing (especially in the areas of chemical, electronics and engineering) in the 1990s to the current knowledge-based economy that

focuses on R&D, especially in the areas of environmental & water technology, biomedical sciences and interactive & digital media. Though Singapore is into biomedical sciences, it is by and large focusing on R&D activities. Hence, there will be greater need for skilled labour in these sunrise industries. However, the unemployed from the sunset industries lack the skill set to fulfil these new job requirements, causing structural unemployment.

- **Frictional Unemployment**

- caused by lack of information and/or lack of incentive to look for jobs. These have caused a long time period for the unemployed to fill job vacancies.
- Lack of information could be due to poor information dissemination infrastructure that affect internet connectivity and usage. Hence, the unemployed lack the necessary information on the job vacancies. This will be more prevalent in developing countries or rural areas in large countries.
- Lack of incentive could be due to attractive unemployment benefits and/or high income tax rate that discourage the unemployed to look for jobs since they would lose the unemployment benefits and yet, subject to prevailing income tax payment. This is more common in western countries that have an established social welfare system.

- **Conclusion**

- High rate of unemployment will have severe repercussions on the economy such as dampening of domestic consumption, increased government expenditure and hence debt burden, and skills erosion. Thus, appropriate government intervention is necessary to eradicate the causes of unemployment to protect the welfare of the citizens.

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth (3 types of unemployment) • Answer has sufficient depth: <ul style="list-style-type: none"> ○ rigorous and detailed economic analysis with the use of economic framework and clear link to the causes. ○ relevant and accurate use of economic concepts; ○ Answer is relevant and applies real-world examples to support the analysis. (9-10m) 	8-10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to the question requirements with sufficient breadth: <ul style="list-style-type: none"> - good explanation of 2 types of unemployment (with rigour and use of real-world examples to illustrate), or - adequate explanation of 3 types of unemployment with clear explanation of the causes 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. 	5-7

L1	<ul style="list-style-type: none"> • Adequate explanation of only one type of unemployment or descriptive explanation of 2 types of unemployment without economic framework and/or clear link to the causes. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used. 	1–4
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(b) A top IMF official on Friday warned that the global public debt is expected to exceed 100 per cent of the GDP in 2020-21, and the average overall fiscal deficit is expected to soar to 14 per cent of the GDP in 2020, pointing out that never have public debt and deficits risen so high and so fast.

Source: The Economic Times, 10 July 2020

In view of the unprecedented high level of government debt and fiscal deficit, discuss whether a government should adopt interest rate based monetary policy to address the high rate of unemployment in the country.

[15]

Synopsis:

Students are to explore the conditions whereby the adoption of interest rate based monetary policy (MP) is able to solve the issues of high unemployment in a country. Students are to utilise the Keynesian Transmission Mechanism to illustrate how conventional MP would help the government to resolve cyclical unemployment especially when fiscal policy would further dent the government coffer, with appropriate assumptions. On the other hand, students are to analyse under what circumstances where the use of conventional MP would not be suitable, such as poor investment sentiment, liquidity trap, characteristics of an economy (small and open) and the prevalence of the type of unemployment. Students are arrive at an evaluative judgement on whether interest rate based MP should be adopted to resolve the issue of unemployment in the country.

Suggested answers:

Introduction:

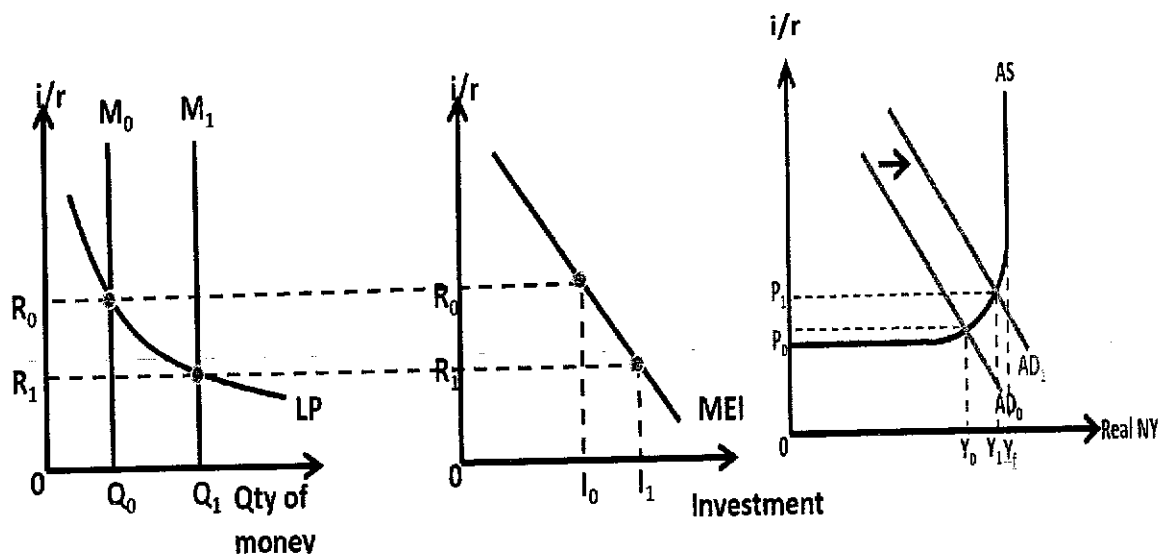
- Define interest rate based monetary policy (MP)
- Identify the types of unemployment
- Outline approach to question

Content:

Thesis: Government should adopt Interest rate based MP to solve unemployment

- Explain and illustrate how interest rate based MP (also known as the conventional MP) can solve cyclical unemployment (using Keynesian Transmission Mechanism or AD/AS framework)

- The central bank can increase money supply in the economy via Open Market Operation. CB can buy bonds from the public to increase the money supply in the economy from M_0 to M_1 . Due to the excess loanable funds in the money market, interest rate (IR), which is defined as the price of money, will fall from R_0 to R_1 . The decline in IR will reduce the cost of borrowing, increasing the rate of return from investment causing investment expenditure (I) to increase from I_0 to I_1 . At the same time, the fall in IR will discourage savings since the return on savings has fallen. This will encourage households to consume and consumption expenditure (C) will also increase. The increase in C and I will result in an increase in AD, through the multiplier effect, RNY will increase by a multiple of the increase in AD. Due to increase in production to satisfy the growing demand for domestic goods and services, firms would increase the demand for factors of production, including labour. As labour is a derived demand, **cyclical unemployment** will fall.



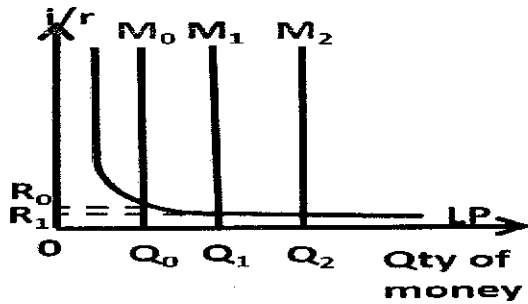
- In this case, the government **should adopt MP** as it is the most appropriate demand management policy option to raise the AD of the economy to tackle the **root cause of cyclical unemployment**.
- In addition, given the **high debt and budget deficit**, government would not be able to adopt expansionary FP without further worsening the budget deficit and hence, further burden fiscal debt. As such, the **use of MP will allow the government to raise expenditures within the economy without compromising the budget balance**.

Anti-Thesis: Government should not adopt Interest rate based MP to solve unemployment

- **When the interest rate in the economy is already very low:**

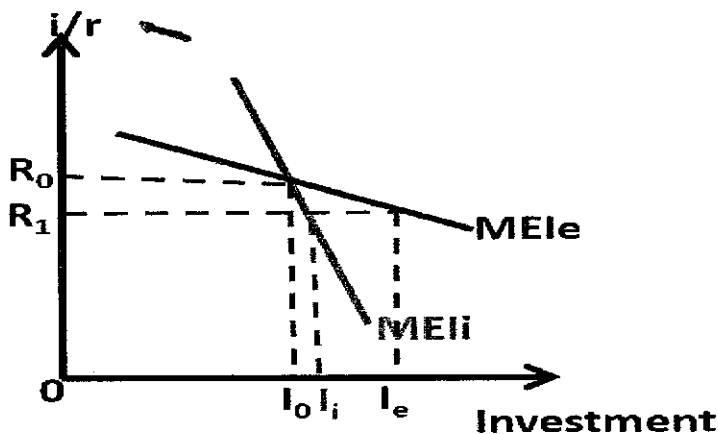
For countries that already have a low interest rate, further increase in money supply might not be successful in further reducing the interest rate. For example, in the case of Japan where interest rate is already close to zero,

even when the central bank of Japan increase the money supply (from M_0 to M_1 to M_2) in the economy, it is not possible for interest rate to fall below zero as it has already hit the **liquidity trap**. This phenomenon usually happens when the consumers and investors have pessimistic outlook of the economy and are not willing to borrow fund from the bank for spending and/or investing. Under such circumstance, conventional MP will not be effective as increase in money supply is not able to reduce the interest rate, hence unable to raise the AD to solve cyclical unemployment.



- **When investment sentiment is unfavourable:**

In order for MP to work effectively, the interest-elasticity of MEI has to be elastic. However, when the investors lack confidence in the economy and expect future returns on investments to be low or negative, **MEI of the economy tend to be interest inelastic (MEI_i)**. This happens when the global economy experience a sharp decline in demand from major economies, such as the US Financial Crisis in 2008 and the current Covid-19 pandemic. As shown in the diagram below, any reduction in the interest rate from R_0 to R_1 will only cause a less than proportionate increase in planned investment from I_0 to I_i . As such, the resulting increase in AD will not be significant and unable to pull the economy out of recession, solving cyclical unemployment.



- **When the country is small and open:**

The adoption of conventional MP hinges on the ability of the economy to control money supply and interest rate. For countries that are small and open, such as Singapore, increase in money supply will reduce the interest rate and hence, increase C and I, and finally AD. However, given the open nature of her economy where flow of capital is not restricted, a fall in interest rate will cause short term capital (hot money) outflow. With the small economy, this outflow of capital will cause money supply in Singapore to fall, raising interest rate again, making the initial injection of money counterproductive. As such, conventional MP cannot be adopted by small and open economy.

- **When the most prevalent type of unemployment in the economy is not caused by weak demand (domestic and global) but due to structural issues:**

The use of conventional MP is to raise AD of the economy to tackle cyclical unemployment. However, if the most prevalent type of unemployment is due to other reasons, such as structural changes in the economy due to government policy shifts, the use of MP will not be appropriate as it does not tackle the root cause of structural unemployment. Similarly, if frictional unemployment exist in the economy due to lack of information on the available job vacancies, or over-generous unemployment benefit, the use of MP will not be able to reduce such unemployment to encourage the unemployed to take up jobs. However, the policies to resolve structural unemployment, such as skills upgrading and training, and frictional unemployment, such as improving information dissemination infrastructure (internet), are generally costly and would further strain the government budget.

Conclusion: [Synthesis]

- Given the current decline in global demand, most countries are experiencing cyclical unemployment. Hence, expansionary demand management policy would be appropriate as it addresses the root cause of weak demand. The adoption of MP should be the priority when a government is facing huge budget deficit and has insufficient reserves to fall back on to implement FP.
- However, it must be noted that for some countries in the EU, MP is centrally governed by the ECB. For economies with severe cyclical unemployment and prefer that the interest rate is lower than those set by the ECB, would not be able to independently alter the domestic interest rate. As such, these economies would have very limited policy option to address cyclical unemployment but to adopt expansionary FP even if this would further increase the public debt.
- The adoption of MP is primarily dependent on the ability of an economy to control money supply and interest rate. In the case of Singapore, the use MP would not be feasible and the adoption of exchange rate depreciation might have limited effectiveness given the weak global demand in view of the falling

foreign incomes. Hence, FP would be a better option given her large reserves that eliminates the need for borrowing.

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth that explain the reasons why interest rate based MP should and should not be adopted. • Answer has sufficient depth: <ul style="list-style-type: none"> ○ rigorous and detailed economic analysis of how MP can be used to solve cyclical unemployment with the use of appropriate economic framework. Similarly, reasons on why MP should not be adopted are clearly detailed and supported by real-world examples. ○ relevant and accurate use of economic concepts. ○ accurate and clearly-labelled diagrams to support economic analysis • Good answers that approach the question from a policy perspective that cover how MP can solve cyclical unemployment, with the limitations as anti-thesis, can be accepted. Alternative policies should be considered as evaluative judgment (E). 	8–10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to question requirements where a 2-sided analysis is provided. • Economic concepts are relevant but may contain minor inaccuracies. • Economic analysis is accurate but incomplete or lacks precision. • Theoretical answers without the use of real-world examples. • 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 or only provide a one-sided argument. • 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	<ul style="list-style-type: none"> • Takes a clear overall stand that is comprehensively justified by providing convincing evaluative comments that synthesises the discussion in the content and provides insightful opinion on policy choices. 	4–5
E2	<ul style="list-style-type: none"> • Takes a clear overall stand that is only partially justified and explained (some links to current context but substantiation is unconvincing and/or inaccurate) • 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: Should government adopt interest rate based MP to solve unemployment? 	1

2021 JC2 H2 Economics
Prelim Exam Paper 2 Section B

6 (a) Explain the possible causes of a balance of payment deficit in the current account. [10]

Synopsis:

Students are to explain the factors that would cause a current account deficit, which include price and non-price factors.

Suggested answers:

Introduction:

- Define Current Account:
Records receipts from the export of goods and services as well as payments for the import of goods and services during the current period.
- Explain that Current Account consists of visible trade, invisible trade, unilateral transfers and income flows.
- Explain that Current Account deficit implies export earnings of goods & services < import expenditure on goods & services

Body:

- (i) **Higher price of domestic goods relative to imports** – could be due to:
- Loss of price competitiveness of goods produced as a result of higher cost of production compared to other producers in countries like China or India which have abundant resources (loss of comparative advantage). With a loss in export competitiveness, US might find that their trading partners who used to import from them would switch to buying relatively cheaper China or India made goods. Furthermore, Americans might also stop buying relatively more expensive domestic goods and switch to buying the cheaper imports instead. With the drop in export revenue and increase in import expenditure, the visible balance in the current account will worsen.
 - Currency devaluation:
 - trading partner can devalue/depreciate her currency, thus making their exports relatively cheaper in USD and American goods more expensive in RMB.
 - US consumers may thus substitute domestic goods with cheaper China goods. If the demand for imports is price elastic, US's import expenditure will rise significantly.
 - China consumers may also reduce their quantity demanded of US's goods as it seems relatively more expensive in RMB. The fall in demand for American goods in China will lead to a fall in US's export revenue.
 - Thus, with the fall in export revenue and the rise in import expenditure, US may face a Current Account deficit, ceteris paribus.

- Higher rate of inflation in the U.S.
 - US's exports become more expensive. Hence, the quantity demanded of US's exports will fall and export revenue fall significantly if the demand is price elastic. US consumers may then substitute domestic goods with cheaper imports. This will raise import expenditure and it will rise significantly as well if demand is price elastic. Therefore, with a fall in export revenue and a rise in import expenditure, US may face a Current Account deficit, *ceteris paribus*.

(ii) **Changes in taste and preferences** of Americans in favour of foreign goods – could be due to loss of non-price competitiveness where American products are deemed inferior in terms of quality and variety compared to imports or other countries goods.

(iii) **Increase in income** due to continuous rate of growth in the country. Americans have higher disposable income → higher purchasing power → imports more

OR

Americans have higher disposable income → higher purchasing power → Americans would travel more and adversely affect the invisible balance of the current account.

(iv) **Other logical reasons such as the presence of FTAs** (e.g. United States– Republic of Korea Free Trade Agreement, United States–Colombia Free Trade Agreement) signed between countries which in turn results in more imports (removal of tariffs – cheaper imports), fear of terrorism attacks that affects tourism (fall in exports earning from services), presence of unfair trade practices by other countries (e.g. China's government giving subsidies to the solar manufacturers) etc.

Conclusion:

- There are many causes of a current account deficit.
- Persistent and large current account deficit tend to pose a greater threat to the economy.
- Hence, government intervention is necessary to mitigate these undesirable effects on the economy.

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth where answer provided at least 3 factors. • Answer has sufficient depth: <ul style="list-style-type: none"> ○ rigorous and detailed economic analysis of at least 3 factors. ○ relevant and accurate use of economic concepts; 	8–10

	<ul style="list-style-type: none"> ○ Answer is relevant to the context of the question and applies real-world examples to support the analysis. ○ Answers that provide both price and non-price factors could be the discriminating factor between high and low L3 marks. 	
L2	<ul style="list-style-type: none"> ● Answer is mostly relevant to the question requirements with sufficient breadth which covers 3 factors. ● Good explanations of 2 factors with rigour, precision and applying real-world examples, or ● Adequate explanation of 3 factors but economic concepts may contain minor inaccuracies, incomplete, lacks precision, and/or not illustrated by real-world examples. ● Adequate explanation of 2 factors max 5m. 	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. ● Insufficient breadth as only 1 factor with good explanation or 2 factors with brief explanation. ● Answer that show lack of understanding of the factor affecting current account. 	1–4

(b) Discuss whether a balance of payment deficit in the current account would hinder a government's efforts to achieve both macroeconomic and microeconomic aims. [15]

Synopsis:

Students are expected to analyse the effects of current account (CA) deficit on a government's aims of economic growth, low unemployment, low inflation, equity and efficiency. While the CA deficit will adversely affect the RNY and employment level of an economy, it would reduce inflationary pressure, if the economy is over-heating. At the same time, increase in level of competition from imports might result in foreign monopoly dominating domestic market in the long run, hence threatening the achievement of various efficiencies. However, the increase in import expenditure (assuming due to increase in volume of imports) would increase the level of competition in the domestic economy to spur allocative, productive and dynamic efficiency. The fall in export revenue (assuming due to export restriction), would increase domestic supply of necessities, making such essential goods more affordable, improving equity. Finally, students would need to provide a synthesised judgement on whether a CA deficit will hinder a government's effort to achieve both macro and micro objectives, which is dependent on the state of the economy, most prevalent and severe issue on hand, etc.

Suggested answers:

Introduction:

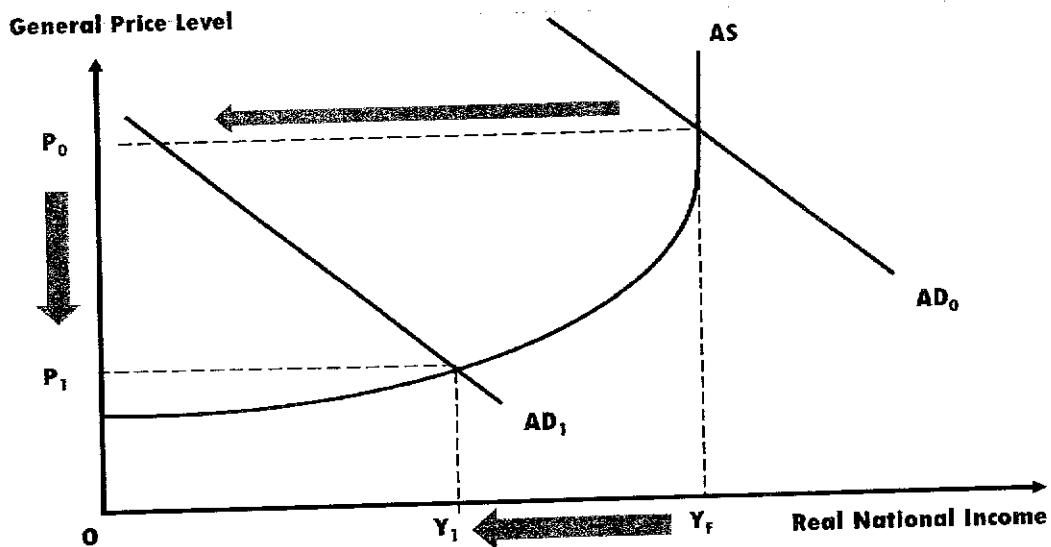
- Define CA deficit
- List the government's macroeconomic and microeconomic objectives:
 - Macroeconomic objectives: economic growth, low inflation, high employment, healthy BOP balance

- Microeconomic objectives: Efficiency (Allocative, Productive and Dynamic) and Equity
- Approach to question: Explain how CA deficit caused by BOT deficit (assumption) will affect the various macroeconomic and microeconomic goals of the government

Content:

Thesis CA deficit would hinder the achievement of various goals:

- CA deficit that is mainly caused by a BOT deficit where there is a fall in export revenue and increase in import expenditure which will reduce the AD of an economy.
- The fall in AD from AD_0 to AD_1 will lead to an excess of goods and services in Singapore causing firms to reduce production. As more labour become redundant due to a fall in demand for labour, since labour is a derived demand, this will lead to cyclical unemployment, and wage cuts for those who still retain employment. The fall in income will lead to further cut in consumption expenditure causing another round of reduction in production and income. Eventually, the fall in the economy's real national income (RNY) from Y_0 to Y_1 will be a multiple of the initial fall in AD due to the multiplier effect, causing **recession**.



- This is evident in the US in 2020 as the China-US trade war and Covid-19 pandemic have severely affected US trade balance and thus partly contributed to the recession in US.
- CA deficit could be the result of an increase in demand for imports where imports are relatively more competitive (cheaper and better quality) than domestic goods. This will increase the level of competition in the economy between these imports and domestic substitutes. If domestic firms are unable to compete with these imports, domestic firms will be forced to close down if

they earn subnormal profits in the LR, allowing the imports to dominate the domestic market. With less competition in the market now, foreign firms might attempt to raise the price of these imports since demand will be more price inelastic. The increase in prices of imports will lead to **greater allocative inefficiency** in the economy

Thesis CA deficit would NOT hinder the achievement of various goals:

- CA deficit due to increase in X and fall in M will reduce the AD, hence reduce the inflationary pressure in the economy, assuming it is near full employment level.
- Increase in imports on advanced machineries and technologies can improve the efficiency and productive capacity, allowing an economy to **achieve potential growth**.
- Increase in import expenditure (assuming due to increase in volume of imports) would increase the level of competition in the domestic economy. The increased level of competition will provide the incentive for domestic firms to invest in R&D. The investment in process innovation will raise the level of efficiency of the firms, improving productive efficiency. At the same time, the fall in COP will allow these firms to reduce the prices of their products, improving allocative efficiency. Investment in product innovation will improve the quality and variety of the products, **dynamic efficiency** in the economy will be achieved as well.
- The fall in export revenue could be due to export restriction to ensure sufficient domestic supply of essential necessities in the domestic market. This would divert goods intended for exports to the domestic market, increasing domestic supply of necessities. By making such essential goods more affordable, **equity** in the economy will improve. In 2020, Pakistan, being the fourth largest rice exporter in the world in 2020, imposed export restriction on rice. Even though this policy might worsen Pakistan's current account deficit, the government decides to implement this policy to ensure sufficient domestic supply of rice to ensure affordability.

Conclusion: [Synthesis]

- In general, a CA deficit that arises from BOT deficit would have a contractionary effect on the domestic economy. Whether such contractionary effect on an economy is beneficial or harmful would depend on the state of the economy, causes of CA deficit and weighing the tradeoffs between SR and LR economic goals.
- Persistent CA deficit would eventually be a concern as it implies that domestic goods and exports are not competitive, threatening the achievement of macroeconomic aims.

- Hence, CA deficit would hinder a government's achievement of macroeconomic goals.
- CA deficit would help the government to achieve microeconomic aims as the increased level of competition provides the incentive and urgency for domestic firms to raise the level of efficiency and productivity, which would in the process lower the price level achieving equity. The formation of foreign monopoly is unlikely due to the varied sources of imports from different parts of the world which prevents the formation of a dominant firm. It can also be mitigated with appropriate government interventions, such as subsidies to spur competitiveness of domestic firms and through regulations to prevent market dominance of foreign firms.

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth where a 2-sided discussion on how CA deficit may affect various macroeconomic and microeconomic objectives. • Answer has sufficient depth: <ul style="list-style-type: none"> ○ rigorous and detailed economic analysis with the use of economic framework (AD-AS & DD-SS). ○ relevant and accurate use of economic concepts. ○ accurate and clearly-labelled diagrams to support economic analysis • Answer applies real-world examples to support the analysis. 	8–10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to question requirements that provide a 2-sided discussion. However, answer only focuses on macroeconomic or microeconomic objectives. • Answer provide sufficient scope (2-sided and both macro and micro objectives) but may contain minor inaccuracies, incomplete and/or lacks precision. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. • Good one-sided analysis that covers both macroeconomic and microeconomic objectives max 5m. 	5–7
L1	<ul style="list-style-type: none"> • Answer is mostly irrelevant to question requirements. • Answer only provides one-sided analysis. • Descriptive answer without the use of economic framework. • 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	<ul style="list-style-type: none"> • Takes a clear overall stand that is comprehensively justified by providing convincing evaluative comments and synthesising the content covered in the body. • insightful opinions are provided and relevant to the requirements of the question. 	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: Would CA deficit hinder a government's ability to achieve both macro and micro objectives?	1
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