HWA CHONG INSTITUTION
C2 Preliminary Examinations
Higher 1

CANDIDATE NAME _____ **CT GROUP** 21

ECONOMICS
Paper 1 Case Study Questions

8823/01
12 September 2022
3 hours

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

Read all instructions printed on the cover page of the 12-page answer booklet carefully.

Write all your particulars clearly on the cover page of the 12-page answer booklet.

Write in dark blue or black pen on both sides of the paper.
You may use a soft HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer ALL questions.

Write all your answers in the 12-page booklet and subsequent 4-page booklets (if required).

Do all your rough work in pen using the answer booklet and cross it through without making it illegible.

Do not tear out any part of this booklet.

Begin case study question 1 and question 2 on a new page within the answer booklet.

All work must be handed in. If you have used any additional 4-page booklets, please insert them inside the 12–page answer booklet.

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

You may use a calculator.

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

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

This document consists of **9** printed pages and **1** blank page.

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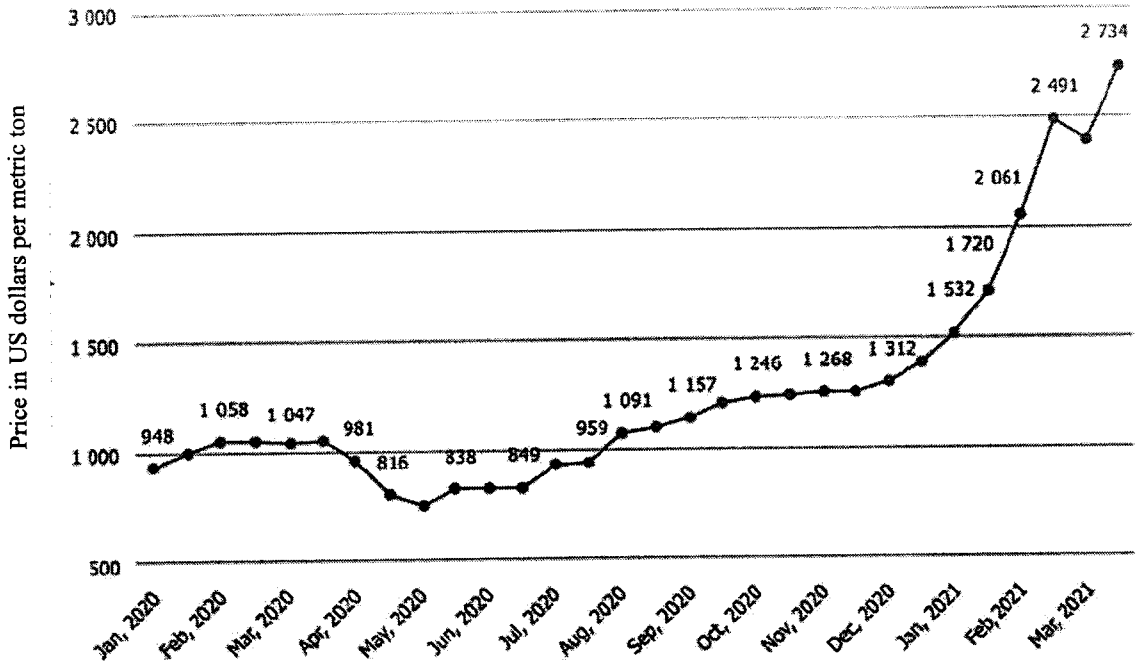
Answer **all** questions

Question 1: The market for face mask

Figure 1: Global price in polypropylene (PP) from January 2020 to March 2021 (US dollars per metric ton)



Source: *https://www.researchgate.net*, accessed on 27 May 2022

Extract 1: The global face mask market

The market revenue of protective face masks will cross US$7.1 billion by 2027. Increasing prevalence of COVID-19 infection across the world will positively influence the market growth. According to the US Centre for Disease Control & Prevention (CDC), approximately 120 million individuals are suffering from COVID-19 infection across the world. To overcome this situation, several authorities such as CDC and World Health Organisation (WHO) have advised the use of face masks to reduce the unintended spread of infections. Also, due to a rise in the number of cases, there has been a global surge in demand for masks for personal health. To overcome such shortcoming, manufacturers are ramping up the production across the globe.

Source: *Global Market Insights*, 22 March 2021

Extract 2: Bottlenecks in the face mask value chain

Factor inputs for face masks can be in short supply and are hard to manufacture quickly. In terms of inputs, oil and metal are the main raw materials for the manufacture of non-woven materials, metal strips and ear loops. The main bottleneck in the value chain in terms of inputs has been the non-woven fabric manufactured with polypropylene.

Polypropylene (PP) is a form of manufactured plastics which is derived from oil. It is commonly used in baby diapers, disposable wipes, as well as in the automotive and construction industries. However, the specific substance used for face masks - PP electret melt-blown non-woven, is a specialised fabric produced by a limited number of companies globally due to the high initial investment required in heavy machinery. For this reason, it has been more difficult to increase production during the crisis, or to find companies that can switch to this manufacturing within a reasonable time and without massive investment.

Source: *OECD*, 4 May 2020

Extract 3: Shortage in the market for face mask

Across China and in Hong Kong, but also as far afield as San Francisco and Rome, in stores, shelves have been swept clean of face masks amid surging demand. This has given rise to a simple question, but no easy answers: how to address the mask shortage so that those who need them can get them?

One approach, offered by most economists, is to let market forces do the work. This means allowing sellers to charge higher prices in response to surging demand. Basic economic theory posits that when demand outstrips supply, producers tend to raise prices. Those who can and want to pay the higher price, for example, people at the highest risk of exposure or transmission - get their hands on the scarce masks. Prices rise until a new equilibrium is reached, that is, when demand again matches supply. In Hong Kong, that means prices for much sought-after masks have skyrocketed.

The thought of profiting off people's very real fears of an epidemic may be off-putting, and governments understandably try to stop this kind of dramatic price increase. But whether putting a cap on prices achieves its intended effect of allocating masks more effectively and fairly is another matter. Many economists think price cap distorts the market and makes it harder for people to access much-needed supplies. The argument is that artificially suppressing prices incentivizes people to hoard products when they can get it, worsening the shortages.

Source: *Quartz*, 4 February 2020

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Extract 4: Infectious disease prevention and preparation in Singapore

Singapore gained international recognition in its efforts to mitigate the spread of the virus, keeping infection rates low in the initial months of the COVID-19 outbreak. This was largely due to their pandemic taskforce which was established soon after the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003.

Since SARS, the country has invested heavily in infectious disease prevention and preparation. As soon as the COVID-19 outbreak was announced by WHO on 31 December 2019, Singapore's pandemic taskforce acted quickly, implementing risk mitigation measures as early as 2 January 2020. These measures included border control, mandatory 14-day quarantining for all returning residents and contact tracing thus reducing community transmission. For the month of February 2020, Singapore did not experience any exponential growth of infections of COVID-19.

Source: *https://www.ncbi.nlm.nih.gov/pmc/PMC7795346/*, accessed on 28 July 2022

Extract 5: Coordinated public action in the pandemic

With infectious diseases like COVID-19, how one person behaves necessarily affects other people's wellbeing. To achieve good overall outcomes for society, it is not enough to rely on individuals' incentives to protect themselves.

In the context of infection control, there are many ways to help people factor in their costs or benefits on third parties. For example, the government can offer subsidies for personal protective equipment, like face mask, to encourage people to help protect themselves. Other indirect measures include statutory sick pay schemes that encourage people who may be infected or have symptoms to stay at home to avoid spreading the disease further. As a last resort, one can consider imposing fines on those who do not wear face masks in public or who do not respect social distancing restrictions. Such fines have recently been introduced in the UK.

In addition to providing explicit incentives such as subsidies and fines, there are other measures that can be used to encourage people to protect themselves and each other better. Clear communication on the costs of infections may be used to help foster better social norms.

Source: *https://www.economicsobservatory.com*, accessed on 27 May 2022

Questions

(a) **(i)** Using Figure 1, compare the change in the global price in polypropylene (PP) between September 2020 and December 2020 with that between December 2020 and March 2021. [2]

(ii) Using evidence from Extract 2 where appropriate, explain why the likely value of price elasticity of supply (PES) of PP for face mask production is likely to be positive **and** low. [3]

(iii) Using Extract 1 and PES value stated in (a)(ii), use a demand/supply diagram to account for the price variation of PP **after** December 2020, and comment why the price variation might not continue in the long term. [7]

(b) Discuss the view that 'putting a cap on prices achieves its intended effect of allocating masks more effectively **and** fairly.' (Extract 3) [8]

(c) Identify and define the characteristics of public good, and carefully explain why the service provided by Singapore's 'pandemic taskforce' is considered a public good. [7]

(d) Merit goods are a category of private goods which are deemed to be socially desirable by the government and are under-consumed.

Making reference to Extract 5, explain why there might be under-consumption of face masks, an example of merit good. [8]

(e) Using appropriate data from various extracts, discuss whether the provision of government subsidies would be the best policy to ensure merit goods are allocated more efficiently in a society. [10]

[Total: 45]

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Question 2 Singapore economy and the pandemic

Table 1: Selected economic indicators for Singapore, 2020 (year-on-year quarterly change)

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Real Gross Domestic Product (GDP) growth (%)	0.0	-13.3	-5.8	-2.4
Inflation Rate (% change in Consumer Price Index)	0.4	-0.7	-0.3	-0.1
Unemployment Rate (%)	2.5	2.9	3.4	3.2

Source: *Economic Survey of Singapore 2020*

Extract 6: The performance of the Singapore economy in 2020

The COVID-19 pandemic caused massive global economic disruptions in 2020. Singapore was not spared as the economy recorded its worst full-year recession since independence. During the year, the economy had to grapple with both demand- and supply-side shocks, such as a fall in external demand for goods and services produced in Singapore caused by the economic slowdown in major economies and global travel restrictions, supply chain disruptions, as well as the implementation of the Circuit Breaker (CB) measures domestically from April to June 2020.

Across sectors, the economic impact of COVID-19 was felt through different transmission channels. Consequently, their economic performance, including their recovery post-CB, was varied. For example, while the indicators for external demand were close to pre-pandemic levels by the fourth quarter of 2020, air passengers and tourist arrivals remained significantly lower than pre-pandemic levels as of end-2020.

Furthermore, significant risks in the global economy remain. While Singapore's vaccination programme is well underway since early 2021, there is uncertainty over how the COVID-19 pandemic will evolve around the world given the emergence of new strains of the virus and difficulties in vaccine rollouts globally.

Overall, Singapore's GDP is projected to gradually recover and expand by 4 to 6 percent in 2021, with GDP not likely to return to pre-COVID levels until the second half of the year at the earliest. The pace of recovery is also expected to be uneven across economic sectors in 2021. For instance, while outward-oriented sectors are likely to benefit from the pickup in global economic activity, activity levels in tourism- and aviation-related sectors are projected to remain below pre-pandemic levels even by the end of 2021

Source: Excerpts from *Economic Survey of Singapore, 2020*

Extract 7: Consumer spending hit by Circuit Breaker measures

About 60 percent of consumer spending in Singapore has been hit by Circuit Breaker measures to tackle the COVID-19 outbreak. Among the sectors affected are transport, clothing and footwear, as well as recreation and culture, the Monetary Authority of Singapore (MAS) said in its twice-yearly macroeconomic review on April 28. Visits to restaurants, malls and other recreational places such as public parks have also declined by about 60 per cent.

The MAS highlighted that inflation is expected to moderate during this economic downturn, with benchmark oil prices forecast to stay low due to worldwide lacklustre demand. While global food supplies are ample, supply chain disruptions arising from international containment measures could lead to a temporary rise in prices of some imported food items, it noted.

Shifts in retail spending are expected in the short term, as households increase spending on daily necessities and reduce their expenditure, especially on luxury and durable goods in anticipation of more layoffs and uncertain economic prospects. Food and beverage outlets near residential areas which are open for takeaway or delivery, may also outperform higher-end restaurants which tend to be located in business districts, the central bank said.

Source: *Straits Times*, 28 April 2020

Extract 8: Singapore's four Budgets in 2020

In less than four months since February 2020, the Singapore Government rolled out four fiscal Budgets to support workers and businesses here during the ongoing COVID-19 pandemic. This is unprecedented since only one budget is usually sufficient to meet the needs of a fiscal year.

Through the Unity, Resilience, Solidarity and Fortitude Budgets, Singapore has put aside almost S$100 billion – or almost 20 per cent of its GDP – to counter the impact of the virus. Of this amount, S$52 billion comes from past reserves.

"Adding the COVID-19 response to our usual spending, the total size of our four Budgets stands at S$193 billion. This is more than double the size of our annual Budgets in preceding years," said Mr Heng Swee Keat, the Deputy Prime Minister. "In other words, we are looking to spend in one year what we would have done in two years or more in normal times."

Singapore's four Budgets are estimated to help its economy cushion average output loss of 5 percentage points, and to prevent large scale job losses over 2020 and 2021, citing a recent study by the Monetary Authority of Singapore.

Source: various

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Table 2: Changes in Monthly Household income for Singapore by percentile, 2019 to 2020*

Percentile	1st to 10th	11th to 20th	21st to 30th	31st to 40th	41st to 50th	51st to 60th	61st to 70th	71st to 80th	81st to 90th	91st to 100th
Real change (%)	-6.1	-3.2	-2.2	-2.0	-1.5	-1.4	-2.2	-2.0	-1.8	-2.3

*real change in average monthly household income from work per household member among resident employed households by percentiles

Source: *Department of Statistics, Singapore*

Extract 9: Singapore household "worse off" in 2020

Median household incomes fell last year as Singapore's economy shrank, but had increased over the last five years, according to a paper released by the Singapore Department of Statistics (DOS). The median monthly household income from work fell by 2.5 percent from S$9,425 in 2019 to S$9,189 in 2020, reflecting the impact of the COVID-19 pandemic.

This trend held true for households across income groups, it said. DOS said that lower-income households in the 1st to 60th percentile saw a S$37 to S$49 drop in their average household income per member, whereas higher-income households in the 61st to 100th percentile had their income fall between S$96 and S$337.

However, their incomes all grew in the five years from 2015 to 2020, with increases ranging from 0.6 to 2.9 per cent a year. The income divide as measured by the Gini coefficient was the lowest in two decades, as government transfers closed the gap in its effort to make the country more inclusive.

Singapore's Gini coefficient in 2020 fell to 0.375 after government transfers. "This can be attributed to the significant amount of government support provided during the COVID-19 crisis in 2020 such as rental, water and electricity rebates, especially for households staying in the smaller HDB flats," said DOS in a media release. Resident households received S$6,308 per household member on average from various Government schemes in 2020, which was higher than the S$4,684 received the year before. Another measure to make Singapore more inclusive includes the use of the Progressive Wage Model. Under the model, lower-wage workers in the cleaning, security and landscape sectors will be guaranteed minimum pay. In order to progress up the job ladder and pay scale, they will undergo subsidised training and improvements in productivity and standards.

Source: adapted from *Channelnewsasia*, 8 February 2021

Questions

(a) With reference to Table 1, describe Singapore's real GDP, general price level and unemployment rate in 2020. [6]

(b) Explain the likely impact on an economy's aggregate demand and aggregate supply in 2020 based on the information found in Extract 6. [6]

(c) Explain how the Circuit Breaker measure affected the standard of living in Singapore. (Extract 7) [4]

(d) Explain the intended consequence of a gradual and modest appreciation policy in Singapore and comment how the changes in prices of crude oil and food (in Extract 7) affected Monetary Authority of Singapore (MAS) decision **not** to implement such a measure in 2020. [7]

(e) Budget spending may result in conflict between economic growth and inflation.

Explain the above statement and discuss if this is the main reason for the Singapore government to consider an unprecedented four Budgets for 2020. [8]

(f) With reference to the data, explain whether lower-income households in Singapore were "worse off" in recent years. [4]

(g) Discuss if the measures to make Singapore more inclusive should be removed or enhanced in the future. [10]

[Total: 45]

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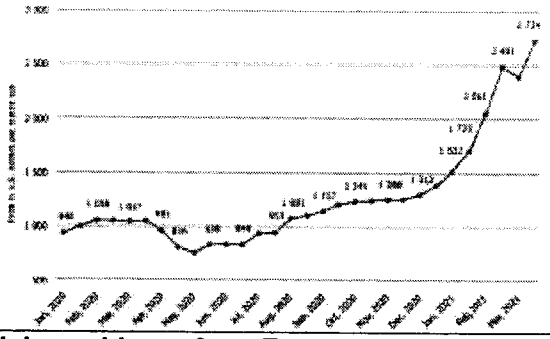
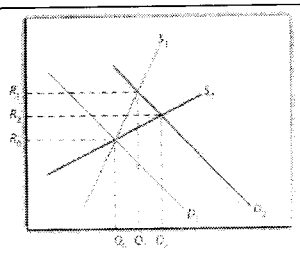
Question 1: The market for face mask

Suggested Answer Outline

(a) (i)	**Using Figure 1, compare the change in the global price in polypropylene (PP) between September 2020 and December 2020 with that between December 2020 and March 2021. [2]**
	Key Similarity: Both increasing [1m] *Key Difference:* Faster rate of increase in 2nd period **[1m]** 
(ii)	**Using evidence from Extract 2 where appropriate, explain why the likely value of Price Elasticity of Supply (PES) of PP for face mask production is likely to be positive and low. [3]**
	Positive PES – due to Law of supply – explain that P and Qs are positively related **[1m]** ***Low PES*** – **[2m]** Explain any one of the two appropriate determinants of PES<1 using relevant evidence: Factor 1 – Nature of production/ease of factor substitution; OR Factor 2 – Time period ***Possible Evidence***: PP electret melt-blown non-woven, is a specialised fabric produced by a limited number of companies globally due to the high initial investment required in heavy machinery. For this reason, it has been more difficult to increase production during the crisis, or to find companies that can switch to this manufacturing within a reasonable time and without massive investment.
(iii)	**Using Extract 1 and PES value stated in (a)(ii), use a demand/supply diagram to account for the price variation of PP after December 2020, and comment why the price variation might not continue in the long term. [7]**
	Diagram illustrating effects of low PES on P surge after Dec 2020 **[1m]**



Explain significant rise in **derived demand** of PP (Extract 1) – due to rise in demand due to change in **taste & preference / WHO's intervention** with evidence **[3m]**

Possible evidence from Extract 1 - *To overcome this situation, several authorities such as CDC and World Health Organisation (WHO)* ***have advised the use of face masks*** *to reduce the unintended spread of infections. Also, due to rise in number of cases, there has been a* ***global surge in demand for masks for personal health.***

Explain how rise in demand coupled with low PES lead to surge in price *using diagram.* **[1m]**

Comment on whether price surge ***might not*** continue into the future [using evidence from Extract 1 to justify].

Price surge unlikely to continue - PES likely to become higher / SS increase given time **[2m]**

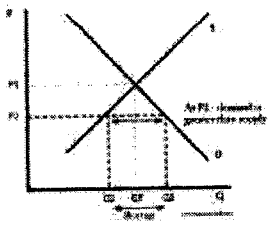
Evidence from Extract 1 - manufacturers and ***key market players are ramping up the production*** *across the globe.*

(b) **Discuss the view that 'putting a cap on prices achieves its intended effect of allocating masks more effectively and fairly.' (Extract 3)**

Introduction – briefly explain 'price cap' – maximum price – lowers P but creates shortage.

Thesis - Putting a cap on prices achieves its intended effect of allocating masks more fairly

Lower price – provide access to masks for those consumers without the ability to buy (given the price surges) – esp for lower income group – enhance fairness



Limitations – However, with reference to the diagram – shortage still exist – Qd<Qs at P2 – probably need a 'rationing device' to ensure that those who really need the mask can get it.

AT – However, putting a cap on prices *does not* achieve its intended effect of allocating masks more effectively

With reference to the diagram the lower prices cause quantity demanded to rise from Q3 to Q2 while quantity supplied falls from Q3 to Q1, resulting in a shortage of Q2 – Q1.

The reduction in availability of face masks as quantity supply falls means that the face masks are affordable only to those who are fortunate enough to get their hands on them at the controlled price.

This shortage can result in the formation of black markets where the black-market price can be even higher than the original market equilibrium price P1.

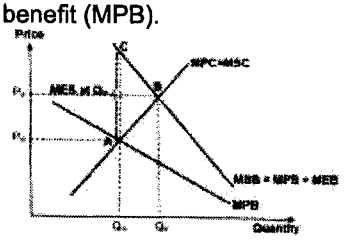
Hence the reduced availability of face masks or the problem of black markets can still result in low-income households having no access to the face masks, limiting the effectiveness of the price ceiling in achieving a **fair** distribution of face masks.

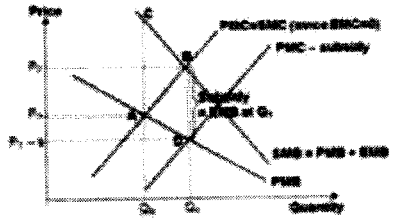
Esp when DD rise faster – price adjustment cannot keep up (Extract 3) as the price signaling function is suppressed + SS remains low – production cannot keep up (Extract 1)

EV - On the whole, price cap **cannot achieve its intended effects of achieving both objectives**. In fact, with the likely Black market situation, **both outcomes become unachievable**. Market forces might be a better mechanism to allocate mask more effectively in the LR, but the fairness issue would need to be tackled using a different mechanism like rationing and/or subsidies.

L2	**Consolidate (Application and Analysis)** Sound analysis and coherent economic arguments. Analyse how price cap can/cannot achieve fairness + allocating masks effectively, using economic reasoning, with reference to appropriate analysis / *diagram(s) - optional.* Clarify – give examples from data with elaboration.	**4 – 6**
L1	For an answer that demonstrates knowledge but lacks understanding, application and analysis: Insufficient scope of discussion, only touches on either shortage OR fairness. Lack of accuracy in the use of economic concepts, terms or phrasing of explanation. Mainly lifting from extracts without economic analysis.	**1 – 3**
E2	**Evaluative Comment** For an evaluation that contains: A synthesis using economic arguments to arrive at **relevant** judgements/decisions Evaluative comments supported by **accurate, logical** and **clear** analysis	**2**
E1	**Relevant** judgement(s) (did answer the question) but may not follow from relevant economic arguments. Comment (s) may lack **depth, clarity, and logic**.	**1**

(c)	**Identify and define the characteristics of public good, and carefully explain why the service provided by Singapore's 'pandemic taskforce' is considered a public good. [7]**
	Identify and define the TWO characteristics of public goods Non-excludability and non-rivalry in consumption. **[1m]** **Non-excludable in consumption** refers to the situation when it is technically impossible or prohibitively expensive to exclude non-payers from consuming the good/service. **[1m]** **Non-rivalry in consumption** refers to the situation where the consumption or use of the good or service by one consumer does not diminish the amount (and quality) of the good/service available for use by the next consumer. **[1m]** Note: the definitions must be based on perspective of consumption. **'Services provided by Singapore's pandemic taskforce' (SPTF) [up to 4m]** - *measures included border control, mandatory 14-day quarantining for all returning residents, contact tracing and providing medical leave for mild cases allowing possible COVID-19 cases to self-isolate at home thus reducing community transmission.* • SPTF provides various services (above examples) to ensure that there is minimal community transmission of the disease and a healthier environment. • The consumption of such service by one resident in Singapore will **not** reduce the amount of benefit enjoyed by the next resident. Hence, the consumption of SPT's service is **non-rivalrous in consumption.** • On the other hand, SPTF's service is also **non-excludable in consumption**. • Once the service is provided to ensure that community transmission is minimised, every resident in Singapore enjoys the benefits of better health environment in the country regardless of whether they pay for it. And it is technically impractical/impossible to charge consumers for the service rendered. ***In conclusion,*** services by SPTF is a pure public good as it is both non-rivalrous and non-excludable in consumption.

(d)	**Merit goods are a category of private goods which are deemed to be socially desirable by the government and are under-consumed.** **Making reference to Extract 5, explain why there might be under-consumption of face mask, an example of merit good. [8]**
	• Merit goods are a category of private goods which are deemed to be socially desirable by the government. The good is **under-consumed** as they **generate positive externalities** and suffer from **imperfect information** where consumers tend to underestimate the true benefits of the good to themselves. **[2m]** ***Positive externalities [up to 4m]*** • Face mask **consumption** generates **external benefits** to **third parties** such as those who do not wear face masks as lowering their risks of contracting contagious diseases. As less people fall sick, other **third parties like employers** can also benefit from their workers being more productive and incur less medical subsidies for their staff. • These **third parties do not compensate** mask consumers for the external benefits that they enjoy. Hence such external benefits are **unpriced** by the market and not reflected in the marginal private benefit (MPB).  • As shown in Figure above, these external benefits cause a **divergence** between private and social benefits, with **MSB** lying **above MPB as MSB = MPB + MEB.** • The **socially efficient quantity** of face masks is at **Q_S** where **MSB = MSC**, where the full costs and benefits to society are considered. However, the free market will only consider its private costs and benefits and hence the **market equilibrium quantity** will only be at **Q_m** where **MPB = MPC**. • For the **under-consumption** of $Q_S - Q_m$ units of masks. ***Imperfect info [up to 2m]*** • The market can also fail due to imperfect information. This results in the **perceived** benefits of masks to be **below** their **actual benefit**. • Hence, there is **under-consumption** as the the **MPB_{actual} exceeds** the **MPC**, prompting government intervention to correct this market failure. *Insert evidence*

(e)	**Using appropriate data from various extracts, discuss whether the provision of government subsidies would be the best policy to ensure merit goods are allocated more efficiently in a society.** **[10]**
	Introduction In the context on ongoing COVID-19 pandemic, face mask is an example of a merit good which the government deemed as socially desirable for consumption. However, current consumption is below the socially desirable level because of inefficient allocation due to the existence of Positive Externalities and Imperfect Information. Government intervention should aimed at correcting these two forms of market failure. **Thesis – Subsidies would be the best policy to correct market failure in the market for face mask (in the context of positive externalities).** Government can use subsidies to internalise the significant positive externalities of a merit good, which is a market based approach. This approach gives private individuals the freedom of choice in making rational decisions with regard to the best level of consumption that would maximise society's welfare.  The government might give a subsidy to producers corresponding to the marginal external benefit i.e. **Subsidy = MEB at Qs** (distance BD) on each unit of face mask. This 'internalising of external benefits' shifts the MPC downwards so that the new PMC, which equals MPC – Subsidy, coincides with the MPB at Qs. Hence, the new market equilibrium quantity where MPB = MPC – Subsidy, now coincides with the socially efficient quantity Qs, where MSB = MSC. The intervention by government in this case has led to efficient allocation of resources and effectively dealt with the market failure caused by positive externalities. **AT1 – Limitations of Subsidy in dealing with Market Failure** However, government may **over-estimate the extent of external benefits accurately** and thus end up **over-subsidizing** face mask. **Allocation of resources is thus inefficient** as there may be over allocation of resources and lead to wastages. If the deadweight welfare loss due to **over-subsidizing** is **more** than the deadweight welfare loss without government's intervention, the society might be worst off in terms of allocative inefficiency. **AT2 – Alternative measure**

	In the case of a merit good, there exists imperfect information because consumers do not know the full extent of the benefits of wearing face masks to themselves. (Insert evidence). A subsidy will reduce the market price of face mask for consumers. This will reduce the MPC for consumers because they pay less. (MPC without subsidy to MPC with subsidy) However, this will **mitigate** the issue of under-consumption of healthcare due to imperfect information - it does not solve the root cause of information gap. Public education/communications (Clear communication/nudging (Extract 5)) may instead be a better policy to correct the root cause of the problem and ensure a longer term impact. Thus, the perceived MPB of face mask to consumers will increase and the quantity of face mask consumed will increase from Qm to Qs. ***Evaluation/Conclusion*** Whether the policy of subsidies is the 'best' would thus depends on the source of the market failure for the merit good. Subsidy is probably best for internalising positive externalities, but it is not the best / most effective in achieving AE due to the imperfect information. Hence a more holistic approach, encompassing both subsidies and public communication is probably the best solution.

	Consolidate (Application and Analysis) Sound analysis and coherent economic arguments. Analyse effectiveness of subsidies in tackling market failure for merit good using economic reasoning, with reference to appropriate analysis / *diagram(s) - optional.* Clarify – give examples from data with elaboration.	**4 – 7**
L1	For an answer that demonstrates knowledge but lacks understanding, application and analysis: Insufficient scope of discussion / one-sided. Lack of accuracy in the use of economic concepts, terms or phrasing of explanation. Mainly lifting from extracts without economic analysis.	**1 – 3**
E2	**Evaluative Comment** For an evaluation that contains: A synthesis using economic arguments to arrive at **relevant** judgements/decisions on whether subsidy is best to achieve an efficient allocation of resources in the market for face mask. Evaluative comments supported by **accurate, logical** and **clear** analysis.	**2-3**

E1	**Relevant** judgement(s) (did answer the question) but may not follow from relevant economic arguments. Comment (s) may lack **depth, clarity, and logic**.	**1**

Question 2 Singapore economy and the pandemic

Suggested Answer

(a)	With reference to Table 1, describe Singapore's real GDP, general price level and unemployment rate in 2020. [6]
	Real GDP: Real GDP decreased in 2020. It was decreasing at an increasing rate from the 1st to 2nd quarter of 2020 before it decreasing at a decreasing rate. GPL: GPL (as measured by CPI) decreased in 2020. It increased by 0.4% in 1st quarter before experiencing a decrease in 2nd quarter onwards. Unemployment rate: The unemployment rate increases in 2020. Unemployment rate increased in the 1st quarter to 3rd quarter before decreasing slightly in the 4th quarter.
(b)	Explain the likely impact on an economy's aggregate demand and aggregate supply in 2020 based on the information found in Extract 6. [6]
	In Extract 2, "the economy had to grapple with both demand- and supply-side shocks, such as a fall in external demand for goods and services produced in Singapore caused by the economic slowdown in major economies and global travel restrictions, supply chain disruptions, as well as the implementation of the Circuit Breaker (CB) measures domestically from April to June 2020." **Demand-side changes** *"a fall in external demand for goods and services produced in Singapore caused by the economic slowdown in major economies and global travel restrictions"* represents a fall in **exports** of goods and services from Singapore. This decreases in aggregate demand. *The implementation of Circuit Breaker (CB) measures domestically"* reduces domestic **consumption.** This decreases in aggregate demand. **Supply-side changes** *"Supply-chain disruption"* for items such raw material and other factor of production represents a decrease in **short-run aggregate supply** when the cost of factor inputs rises following a reduction in the supply.

	Travel restrictions also prevent the movement of factors of production such as foreign labour to Singapore. This also affects **short-run aggregate supply.**
(c)	Explain how the Circuit Breaker measure affected the standard of living in Singapore. (Extract 7) [4]
	Standard of living is defined as the material and non-material well-being of an average resident in a country. From Extract 2, *"reduce their discretionary expenditure, especially on luxury and durable goods"* This illustrates the reduction in consumption of luxury goods and services which reduces the ability to enjoy **material standard of living**. In addition, the *"temporary rise in prices of some imported food items"* also meant a decrease in real income, thus reducing the amount of imported goods and services to be consumed by locals. "*Visits to restaurants, malls and other recreational places such as public parks have also declined."* **Non-material aspects** such as recreational activities to reduce stress have also reduced. In addition, the *"anticipation of more layoffs and uncertain economic prospects"* may also may lead to higher stress levels.
(d)	Explain the intended consequence of a gradual and modest appreciation policy in Singapore and comment how the changes in prices of crude oil and food (in Extract 7) affected Monetary Authority of Singapore (MAS) decision **not** to implement such a measure in 2020. [7]
	Explanation of intended consequences of gradual and modest appreciation on **General Price Level.** • Given Singapore's **high import dependence**, due to a lack of natural resources, large and sudden increases in prices of imported inputs will result in severe **imported inflation.** • This not only affects the cost of living for domestic households, but also severely affects Singapore's export competitiveness as most of Singapore's exports require substantial imported inputs to manufacturer. • By managing of exchange rates, MAS is thus able to directly reduce the costs of imported inputs, hence reducing imported inflation. • Revaluing the Singapore Dollar (SGD) also helps to dampen net exports and AD thus **curbing demand-pull inflation** as well. • Inflation is thus kept low and stable which promotes savings and investments, thus providing the foundation for strong actual and potential economic growth.

Application of Extract 7

In Extract 7, "inflation is expected to **moderate** during this economic downturn" due to "benchmark **oil prices forecast to stay low** due to worldwide lacklustre demand. But while global food supplies are ample, supply chain disruptions arising from international containment measures could lead to a temporary rise in **prices of some imported food items**"

Low oil prices create low imported inflation pressures while higher food prices could cause some higher imported inflation. However, overall the imported inflation (cost-push inflation) is moderate. (Please use Table 1 to note that Singapore is facing deflation for most of the year)

Therefore. MAS should not use gradual and modest appreciation when **inflationary pressure are absent** in Singapore and this policy is contractionary in nature which is not beneficial to an already weak economy.

Comment: Any acceptable statements on the issue. For example, "given the nature of recession and lack of inflation in 2020, MAS should instead take a bold step to let Singapore dollar devalue against major currencies in order to boost exports"

(e) Budget spending may result in conflict between economic growth and inflation.

Explain the above statement and discuss if this is the main reason for the Singapore government to consider an unprecedented four Budgets for 2020. [8]

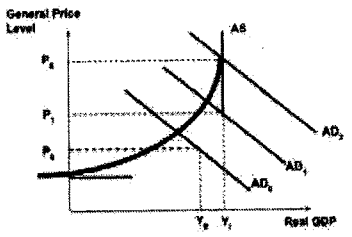
Explanation of Fiscal Policy (Budget Spending)

Expansionary Fiscal Policy involves increasing government expenditure to increase aggregate demand. With the increase in aggregate demand via the multiplier process would lead to a multiplied increase in Real GDP.

Conflict between macro goals

Conflict between macroeconomic goals occurs when AD increases which lead to lower unemployment/higher economic growth but result in higher demand-pull inflation. This occurs when the economy is facing a full employment level of resources and when the increase in aggregate supply is not sufficient to meet the increase in aggregate demand.

Figure 1: Rapid growth at the expense of demand-pull inflation



Other considerations

Other concerns (limitations) would be the **small size of multiplier** that is not able to increase AD sufficiently. Given that consumption and investment are weak, government expenditure could boost economic growth but the effectiveness is limited.

The **extent of the recession** was another consideration, given the large negative economic growth and the increasing unemployment rate. "Singapore's four Budgets are estimated to help its economy cushion average output loss of 5 percentage points, and to prevent large scale job losses over 2020 and 2021"

Another possible consideration for the government could be the **budget** that is used which requires a draw down from the reserves. There could be an opportunity cost to be used for other purpose such as healthcare and education. However, such use of the budget is justified on a rainy day but it should be unlimited.

Conclusion

The main concern is in the effectiveness of the budgets in preserving jobs for Singaporeans (maintaining a relatively low rate of increase in unemployment) in order to weather such a heavy recession. Inflation was hardly a concern in 2020 with the deflation in the economy. The reason for the four budgets was that events deteriorated rapidly to have the government to be able to analyse all the implications. The government had to add a new supplementary budget as the pandemic deteriorated with time in 2020/2021.(Note: This could be an example of the Marginalist Principle) The government could not wait for another fiscal year to implement a new budget.

L2	**Consolidate (Application and Analysis)** Sound analysis and coherent economic arguments. Scope – Good explanation of the conflict and other considerations. Depth – Sufficient rigour in the analysis of the conflict and other considerations	**4 – 6**
L1	For an answer that demonstrates knowledge but lacks understanding, application and analysis: Insufficient scope of discussion, only touches conflict or other considerations. Lack of accuracy in the use of economic concepts, terms or phrasing of explanation. Mainly lifting from extracts without economic analysis.	**1 – 3**

	E2	**Evaluative Comment** For an evaluation that contains: A synthesis using economic arguments to arrive at **relevant** judgements/decisions Evaluative comments supported by **accurate, logical** and **clear** analysis	**2**
	E1	**Relevant** judgement(s) (did answer the question) but may not follow from relevant economic arguments. Comment (s) may lack **depth, clarity, and logic**.	**1**

(f) With reference to the data, explain whether lower-income households in Singapore were "worse off" in recent years. **[4]**

In Table 2,

Lower 20 percentile has a higher decrease in income (in percentage) compared to to the higher 20 percentiles. Income inequality worsen in 2020. The lower income take-home pay also decreased in 2020.

In Extract 9

However, in Extract 9 with *"a significant amount of government support provided during the COVID-19 crisis in 2020, such as rental, water and electricity rebates, especially for households staying in the smaller HDB flats,"* there were fewer expenses that the lower-income households incurred in 2020.

"incomes all grew in the five years from 2015 to 2020, with increases ranging from 0.6 to 2.9 per cent a year. The income divide as measured by the Gini coefficient was the lowest in two decades, as government transfers closed the gap." Income inequality in fact improved for the past five years with government assistance.

	In addition, the Progressive Wage Model provided minimum wage and subsidies for training for some low-income households. Lower-income were not worse off for the past few years, even in 2020.
(g)	Discuss if the measures to make Singapore more inclusive should be removed or enhanced in the future. [10]
	The analysis should demonstrate how measures can help low-income households and promote inclusivity and possible evaluation of these measures on whether they should be removed or enhanced in the future. • **Government transfers** Government transfers are the ways that the government redistributes income and wealth to the population. In Singapore, this is most apparent in the various government schemes targeted at the lower income group. This includes rental, water and electricity rebates. Evaluation: It is not likely that income inequality to be completely eliminated in the future. In fact, with the greater movement of capital and labour, the Gini coefficient (before transfers) is expected to worsen. Thus the government is likely to enhance the transfers for years to come. Higher-income earners may expect to pay higher (progressive) taxes in the future to pay for this. Such an enhancement of government transfer may create social tensions. • **Subsidy for training and education** to equip skills relevant for the job market. These would increase their productivity level and their demand for labour would increase and thus receiving a higher wages. Evaluation: With rapid technological changes, skills could be irrelevant in a short period of time. In order to equip low-income households with up-to-date skills, the government and industries would have to play a greater role and subsidise relevant training schemes in the future. This is a supply-side policy that the Singapore government would be willing to enhance in order to benefit both the workers and the economy. • **Minimum wage scheme** (Progressive Wage Model) Price Floor to ensure that low-income workers receive a decent wage. It has raised wages at a sustainable and meaningful pace, without hurting the livelihoods of the lower-wage workers. Examples of jobs in PWM are in security, cleaning and landscaping. Evaluation: With more Singaporeans receiving higher education, fewer Singaporeans will take up low-skilled which could mean that this measure would be unnecessary in the future. There would be less of a need for such a minimum wage in the future. (Candidates may offer differing views)

Summative evaluation – income inequality will continue to exist in the future. The number of low-income households in absolute terms will fall and most will be lifted out of poverty. Thus there is less need to give large handouts for basic survival. However, relative income inequality (i.e perceived income gap between high and low-income households) will always remain and could worsen with greater globalisation. In this respect, we would expect government support to continue or enhanced.

L2	**Consolidate (Application and Analysis)** Sound analysis and coherent economic arguments. Scope – measures in were sufficiently explained (such as those in Extract 9) Depth – the measures were analyzed if they were to be enhanced or removed in the future Clarify – give examples from data with elaboration.	**4 – 7**
L1	For an answer that demonstrates knowledge but lacks understanding, application and analysis: Insufficient scope of discussion. Lack of accuracy in the use of economic concepts, terms or phrasing of explanation. Mainly lifting from extracts without economic analysis.	**1 – 3**
E2	**Evaluative Comment** For an evaluation that contains: A synthesis using economic arguments to arrive at **relevant** judgements/decisions Evaluative comments supported by **accurate, logical** and **clear** analysis	**2-3**

	E1	**Relevant** judgement(s) (did answer the question) but may not follow from relevant economic arguments. Comment (s) may lack **depth, clarity, and logic**.	**1**