

TEMASEK JUNIOR COLLEGE
Preliminary Examinations 2021
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

Paper 1

9757/01

Tuesday 24 August 2021
2 hours 15 minutes

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

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

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.

Write your name and CG-number on all the work you hand in.

Write in dark blue or black pen.

You may use a pencil for any diagrams or graphs.

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

Answer **all** questions.

Indicate the question number clearly in your answers.

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

This document consists of **8** printed pages

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Temasek Junior College
Economics

[Turn Over

Answer all questions.

Question 1: Singapore on the move!

Table 1: Walking speeds and GDP of different cities

	Singapore	Brazil	Egypt	Malawi
Walking Speed - average time taken to walk 16 feet (or 18.2m)	10.55s	11.13s	14.18s	31.60s
Measured in 2006				
GDP per capita, (2006)	US\$33,769	US\$5,919	US\$1,504	US\$257
GDP per capita, (2019)	US\$65,233	US\$8,752	US\$3,056	US\$441

Source: *Pace of Life Study, 2006* and *CEIC data, August 2021*

Extract 1: Faster. Slower. How We Walk Depends on Who We Walk With, and Where We Live

A fascinating new cross-cultural study of pedestrians in several nations shows that men tend to walk differently with other men than with women and that some cultures may promote walking speed over sociability. This suggests that how we move is dependent on multiple factors, including income levels.

People in Uganda walked much more quickly than those in Seattle when they were by themselves, their pace averaging about 11 per cent swifter than lone walkers in the United States. But they were slower in groups. Both men and women in Uganda strolled at a more leisurely pace when they were with others, especially children.

The opposite was true in Seattle. There, people sped up when they walked with other people. Men were particularly hurried when walking with other men, but both men and women increased their pace if they had children in tow.

Source: *New York Times, 19 September 2019*

Extract 2: Discounted fares for pre-peak travel

Giving subsidies to commuters travelling throughout the MRT network during the morning off-peak period is likely to be an effective move to ease peak-hour crowds, said experts. This will improve the sustainability of Singapore's rail services – if we reduce peak demand even by a small amount, it can save a significant amount of extra costs that comes with servicing trains that are overworked. The Public Transport Council announced yesterday that commuters who tap in before 7.45am at any train station on weekdays from Dec 29 will receive a discount of up to 50 cents on their fares.

Commuters interviewed had mixed views on whether such a move would make them change their travel patterns. Ms Claudia Chew felt the 50-cent discount was "good enough" an incentive for her to start her morning commute 5 to 10 minutes earlier. The 24-year-old healthcare professional, who usually boards the train at Yew Tee station at 7:50am, said that she will now attempt to tap in before 7:45am. "Considering that my fare from Yew Tee to Jurong East is about S\$1.20, a discount of 50 cents is almost half and would help me to reduce my transport costs quite significantly and allows me a more comfortable journey as I can get a seat," she added. Meanwhile, commuters like Ms Nadia Rosli, 44, a senior manager at a food manufacturing company, said she would not wake up 30 minutes earlier for a 50-cent reduction.

Source: *Today*, 31 October 2017

Extract 3: Encouraging the use of electric vehicles

Under an early adoption scheme for electric vehicles, buyers will get a rebate of up to 45 per cent on the additional registration fee, capped at S\$20,000, Deputy Prime Minister Heng Swee Keat said in his Budget speech on Tuesday (Feb 18), "We are placing a significant bet on electric vehicles and leaning policy in that direction because it is the most promising technology," he said. The Government will also expand the public charging infrastructure for electric vehicles, from 1,600 today to about 28,000 by 2030.

Mr Heng, who is also Finance Minister, said that the move is part of Singapore's efforts to fight climate change, and one way to do that is by managing Singapore's transition to a low-carbon, low-emissions economy. "Our vision is to phase out ICE (internal combustion engine) vehicles and have all vehicles run on cleaner energy by 2040," Mr Heng said, as he highlighted three measures in this year's Budget that hopes to achieve this goal.

Source: *Today*, 18 February 2020

Extract 4: Price of electric cars still shocking

At the end of 2017, there were 520 electric cars in Singapore, a sharp increase of 380 per cent from only 137 at the close of 2016. Of the 383 electrified vehicles (EVs) that joined the car population here last year, the majority (298 units) were registered by car-sharing services such as BlueSG. Despite this surge in numbers, there are still concerns regarding the future of the market.

At S\$183,999 with Certificate of Entitlement (COE), the Kia Niro EV, a battery-powered car launched in Singapore last week is far more expensive than petrol cars of a similar size. EVs are pricey for a simple reason. "If speaking about production costs, it's primarily the batteries," said Andreas Aumann, the vice-president of product management BMW i, eMobility at BMW. "They are the one component that makes EVs so expensive." In the case of the Niro EV, its battery pack could cost S\$17,000 by itself. Many cars cost less than that in their entirety!

While EV technology is inherently expensive, Singapore's vehicle taxes have the effect of magnifying their cost to the user. Calculations by *The Business Times* show that the Niro EV attracts around S\$80,000 in excise duty, additional registration fee and goods and services tax, to say nothing of the COE and the cost of the car itself from Kia.

Source: *The Business Times Singapore*, 19 January 2018, 21 June 2019

Extract 5: Ministerial Statement by Senior Minister of State for Transport Dr Lam Pin Min on Personal Mobility Devices (PMDs)

Reckless PMD riders have become a menace on the ground, causing alarm on our public paths. Speedsters have also illegally modified their devices to travel at very high speed, without fear for their own lives and the danger they put others in. Residents are also worried whether their houses will be affected should their neighbour's PMD catch fire.

At the same time, we are mindful that tens of thousands of Singaporeans have adopted PMDs and benefited daily from their usage. Singaporeans have saved time and costs by using PMDs as a transport option, older Singaporeans with mobility challenges have newfound freedom with personal mobility aids, and Singaporeans have improved their livelihoods through new employment opportunities. Mr Hafidz is one of them. He had to give up his earlier job due to health reasons, and doing food delivery is now his lifeline. As the eldest son in his family, working as a food delivery PMD rider allows Mr Hafidz to provide for himself and his elderly parents, who are no longer working. Mr Hafidz is only one of the many Singaporeans who have benefited from the introduction of PMDs. Even Singaporeans who do not ride PMDs benefit from the convenient services provided by riders who use PMDs to deliver food to their doorsteps, sparking the growth of a multi-million food delivery industry in Singapore.

Food aside, PMDs were also allowed into Singapore as they are fundamentally a cheap, convenient and environmentally friendly alternative to cars and motorcycles for short trips. They can play an important role in our vision for a car-lite society.

Adapted from: *Ministerial Statement in Parliament and The Straits Times*, August 2019

Questions

- (a) (i) With reference to Table 1, state the general relationship between walking speeds and income levels around the world. [1]
- (ii) Explain the above relationship using the concept of opportunity cost. [2]
- (iii) Explain why despite the above relationship, you would **not** expect walking speeds to increase for all countries in 2019. [2]
- (b) Explain **one reason** why pre-peak travel discounts by SMRT is not an example of price discrimination. [3]
- (c) With reference to Extract 3, explain how Singapore's 'bet' on electric vehicles can help achieve sustainable growth in Singapore. [4]
- (d) Discuss whether the high prices of electric vehicles are primarily due to free market forces. [8]
- (e) Discuss the impact of increasing use of PMDs on the economic goals of the government. [10]

[Total: 30]

Question 2: Economic repercussions of COVID-19**Table 2: GDP in billions, adjusted for purchasing power parity (PPP), 2017**

	2017	2018	2019	2020
Singapore	535	554	561	531
China	19,887	21,229	22,492	23,010
United States	19,543	20,129	20,564	19,847

Source: *World Bank*, 2021

Extract 6: How the pandemic has changed the world economy

The spread of the coronavirus pandemic worldwide has left national economies and businesses counting the costs, as governments struggle with new lockdown measures to tackle the spread of the virus. The International Monetary Fund (IMF) estimates that the global economy shrunk by 4.4% in 2020.

Many people have lost their jobs or seen their incomes cut. Unemployment rates have increased across major economies. In the United States, the proportion of people out of work hit a yearly total of 8.9%. Millions of workers have also been put on government-supported job retention schemes as parts of the economy, such as tourism and hospitality, have come to a near standstill. The travel industry has been badly damaged, with airlines cutting flights and customers cancelling business trips and holidays. New variants of the virus have forced many countries to introduce tighter travel restrictions. Some experts have warned it could be years before levels of employment return to those seen before the pandemic. The only major economy to grow in 2020 was China. It registered a growth of 2.3%. Recovery in big, services-reliant, economies that have been hit hard by the outbreak, such as the UK or Italy, is expected to be slow.

Source: *BBC*, 24 January 2021

Extract 7: Rental help for businesses hit by COVID-19 pandemic

On 5 June 2020, the Parliament of Singapore passed regulations requiring owner-landlords to provide much needed rental waivers to small and medium-sized enterprises (SMEs) facing liquidity pressures arising from COVID-19. This rental relief programme supplements the earlier announced property tax rebates, which required non-residential building owners to pass on the tax rebates to tenants by way of rental waivers.

The rent relief framework will help affected SMEs that need more time and support to recover from the impact of the virus pandemic, as well as eligible non-profit organisations. Tenants and sub-tenants do not need to pay rent for the months covered by the rent relief framework. Eligible tenants in the food and beverage and commercial sectors will enjoy four months of rental waiver from April to July - two months each from the Government and the landlord. Those in the office and industrial sectors will get two months of rent waived for April and May - one month each from the Government and the landlord. This is as long as their leases are in force on 1 April.

Source: *The Straits Times*, 30 July 2020

Extract 8: Macroeconomic effects of COVID-19 in the US

In 2020, US oil prices turned negative for the first time on record after oil producers ran out of space to store the oversupply of crude left by the coronavirus crisis, triggering an historic market collapse which left oil traders reeling. The price of US crude oil crashed from \$18 a barrel to -\$38 in a matter of hours, as rising stockpiles of crude threatened to overwhelm storage facilities and forced oil producers to pay buyers to take the barrels they could not store.

The market crash underlined the impact of the coronavirus outbreak on oil demand as the global economy slumps. The price of oil from the US shale heartlands declined steadily following the biggest slump in oil demand for 25 years due to restrictions on travel to curb the spread of COVID-19. The fall accelerated amid rising fears that the global economy may be facing its deepest downturn since the Great Depression.

On 1 January 2021, twenty states in the US are raising their minimum wage rates - some by pennies, others by a dollar or more. In New Mexico, the minimum wage will increase to \$10.50, up \$1.50 from the current \$9 wage. In Minnesota, the gain is just 8 cents, to a \$10.08 hourly rate for large employers. Although some of the new state increases were set in place years before, they carry additional significance now, when low-wage workers have been hit particularly hard by the coronavirus pandemic. "The COVID crisis has really exacerbated inequalities across society," said Greg Daco, chief U.S. economist for Oxford Economics. "This has given more strength to labour activists that try to ensure that everyone benefits from a strong labour market in the form of a sustainable salary."

Source: *The Guardian*, 20 April 2020, *CNN*, 31 December 2020

Extract 9: Firepower to fight the pandemic

The Monetary Authority of Singapore (MAS) eased its policy stance by setting the Singapore dollar's rate of appreciation at zero per cent at the prevailing lower level of its exchange rate policy band, which effectively lowers the mid-point of the policy band. Conventional monetary policy, like cutting interest rates, helps lower the cost of borrowing and servicing debt. But with no end in sight yet to the COVID-19 pandemic, governments around the world are finding that a more aggressive fiscal policy - from tax rebates to direct cash transfers to households - is needed to prop up businesses, preserve jobs and support livelihoods. All adult Singaporeans will receive a cash payout of \$300, \$600 or \$900 depending on their income. Lower wage workers will also receive an Enhanced Workfare Special Payment of \$3,000 this year.

"MAS' action is absolutely a correct one," Deputy Prime Minister and Minister for Finance Heng Swee Keat explained. "But the firepower to fight the COVID-19 pandemic has to be fiscal policy, and I'm very glad we have the past reserves." Last week, President Halimah Yacob gave her in-principle support for the Government to tap Singapore's reserves to the unprecedented tune of up to \$17 billion for a substantial aid package to deal with the pandemic. Mr Heng had announced a supplementary budget introducing more than \$48 billion in new and enhanced measures to protect jobs and help companies with immediate challenges. For instance, stallholders at hawker centres and markets, as well as eligible commercial tenants, will get rental waivers, in a move to provide them with greater support amid the COVID-19 pandemic. In total, these rental waivers will cost \$334 million. The post-COVID-19 world will be a "very different" one, hence it is important to put in place structural policies and look towards the future, he said.

Source: *The Straits Times*, 31 March 2020

Questions

- (a) The World Health Organisation declared the COVID-19 outbreak a pandemic on 11 March 2020. With reference to Table 2, explain which country suffered most from the pandemic. [2]
- (b) Explain how the spread of COVID-19 has affected the relative importance of the components of aggregate demand in an economy. [5]
- (c) (i) Define fixed and variable costs. [2]
- (ii) Using a diagram, explain the impact of rental waivers on the short run costs of a firm. [3]
- ~~(d) Explain how COVID-19 might affect an economy's comparative advantage. (CLT) [3]~~
- (e) Discuss the impact of COVID-19 on inflation in the US. [8]
- (f) Discuss whether the policy of 'direct cash transfers' is most appropriate in addressing the growth challenges arising from COVID-19. [10]

[Total: 33]

CSQ1: Singapore on the move!

(a)	(i)	With reference to Table 1, state the general relationship between walking speeds and income levels around the world.	[1]
There is a positive or direct relationship between walking speeds and income levels around the world. The higher the income levels, the faster the walking speeds. [1m]			
	(ii)	Explain the above relationship using the concept of opportunity cost.	[2]
<p>Opportunity costs can be defined as the value of the next best alternative forgone when a resource is used for a certain activity.</p> <p>In this case, when income levels are higher, the time spent on walking has a higher opportunity cost as the next best alternative use of the time is a higher income level forgone, hence walking speeds are faster. This is in contrast to low income countries where the opportunity cost of time is lower in terms of the lower income levels forgone.</p> <p>1m for recognition of time as the resource 1m for appropriate application of opportunity cost definition to relate higher income with faster walking speeds</p> <p>Max 1m for definition of opportunity cost without any accurate application to the context.</p>			
	(iii)	Explain why despite the above relationship, you would not expect walking speeds to increase for all countries in 2019.	[2]
The above relationship was crafted with the assumption of ceteris paribus [1m]. From the evidence in Extract 1, it is clear that other factors such as the culture and social norms of places will affect the walking speeds as well. Therefore, I would not expect walking speeds to increase for all countries. [1m for valid use of Ext 1 to raise 1 other factor]			
(b)	Explain one reason why pre-peak travel discounts by SMRT is not an example of price discrimination.		[3]
<p>1m for Full Definition of Price Discrimination:</p> <ul style="list-style-type: none"> Price discrimination refers to the practice of a firm charging different prices for an identical product to different buyers for reasons not associated with differences in cost. (1m) <p>2m for the following explanation (1m for identifying that cost is not the same and for contextualisation):</p> <ul style="list-style-type: none"> There are differences in costs incurred for SMRT for pre-peak travel. The cost of production is lower in terms of fixed cost for pre-peak travel. Hence the lower costs will correspond to the discount given. <p>1m is given for recognising that the product is different:</p> <ul style="list-style-type: none"> The pre-peak travel is not the same ride experience as travelling during peak hours. Consumers can expect to have a "more comfortable journey" as they can get a seat. 			

(This explanation will not be given full credit as the more comfortable journey does not correspond to the lower price of pre-peak travel.)

(c)	With reference to Extract 3, explain how Singapore's 'bet' on electric vehicles can help achieve sustainable growth in Singapore. [4]
<p>Achieving sustainable growth [4]: (AD/AS diagram is not required for full credit)</p> <ul style="list-style-type: none"> A key aspect of Singapore's 'bet' on EVs is how the government "will also expand the public charging infrastructure for electric vehicles". [1m] The increase in government expenditure on such developmental projects will result in an increase in aggregate demand (AD) and the AD curve shifts to the right, from AD₁ to AD₂. [1m] With the building of more public charging infrastructure, Singapore's quantity of capital increases, resulting in an increase in our productive capacity. Thus, AS increase and the AS curve shifts outwards from AS₁ to AS₂. This results in both actual and potential growth occurring and hence, sustained growth in Singapore. [1m] Beyond this, given that this move would also result in a reduction in carbon emissions, hence, achieving sustainability. [1m] 	
(d)	Discuss whether the high prices of electric vehicles are primarily due to free market forces. [8]

Question Interpretation

Command phrase	<i>Discuss whether... primarily due to</i>	This is a factor discussion question. There is a given effect and one possible cause. The word 'primarily' hints that you should be finding other causes
Content phrase	<i>high prices of electric vehicles</i>	This is the given effect. The outcome of 'high prices' hints that you should be doing demand and supply analysis.
	<i>free market forces</i>	This is the given causal factor. It hints at finding demand/supply factors that are not government related in the thesis. The opposite of free market forces is government forces and that should appear in your anti-thesis.
Context phrase	<i>electric vehicles</i>	This is the key context and the main extracts that will come in useful are Extracts 3 and 4

Suggested Answers:

Introduction

- This essay seeks to discuss the high prices of electric vehicles which are likely driven by free market forces in the form of demand and supply conditions and by government actions.

Body 1: The high prices of electric vehicles are due to free market forces in the form of growing demand and a low supply for electric vehicles

- There is a high cost of production for the cars, in particular the batteries that are used in the production. This is evidenced by Extract 4 that mentions how the cost of the battery pack could be more than the cost of many non-electric cars. This reduces the

ability of producers of EVs to produce the car at a low cost and therefore it results in a relatively low supply for electric cars as compared to non-electric vehicles.

- *(Weak argument)* As mentioned in Extract 4, there is a growing demand for driven by car-sharing services such as BlueSG. Being a firm, it would have the ability to purchase a large fleet of vehicles, and it has the willingness to do so as it helps build a stronger brand image as a company that believes in green technology. *(This is a weaker as the overall demand for EVs is still very low – as evidenced by the total number of EV sold as only being in the hundreds annually in Singapore)*
- The low supply of electric vehicles therefore led to a high equilibrium price where supply meets demand in the market for electric vehicles.

Body 2: The high prices of electric vehicles may not be due to free market forces as it could be due to government intervention in the market as well.

- However, it should be noted that in countries such as Singapore, the low supply is also caused by various taxes that has been put in place to manage the issue of congestion. This includes around S\$80,000 in excise duties, as well as the Certificate of Entitlement that cars must have in Singapore.
 - The implementation of the high taxes have the effect of increasing the cost of selling electric vehicles in Singapore, causing supply of electric vehicles to be low and leading to a high price for electric vehicles.
 - The implementation of the COE acts as a quota on the total number of cars in the market, which further limits the supply of vehicles.
 - Taken together the low supply of vehicles due to the government action could therefore have led to a high equilibrium price where supply meets demand in the market for electric vehicles.

Evaluative conclusion

- **[Stand + Situation + Magnitude]** While both free market and government forces are at work in driving the high prices, in countries like Singapore it is likely that government forces will have a greater impact. This is because the extent of COE and taxes (at least \$80,000) to manage congestion in Singapore is much larger than the expensive cost of batteries (\$17,000 based on Extract 4).

OR

- **[Stand + Situation + Magnitude]** Whether free market or government forces are primarily causing the high prices depends on the country in question. In land scarce Singapore, the need to manage congestion is higher and therefore the government has placed a high amount of taxes, making it the primary factor causing the high prices. However, in larger countries such as the USA, high prices are more likely due to free market forces, as the issue of congestion is less severe.
 - **[Situation]** However it is likely that in Singapore government forces may have a smaller impact over time. With a commitment to cleaner growth, the taxes such as the additional registration fee are being lowered and this would reduce the impact of government policies on the high prices in the longer run.

Mark Scheme:

Level	Knowledge, Application, Understanding and Analysis	Marks
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L2	For a well-developed answer that <ul style="list-style-type: none"> - displays good rigour by using demand-supply analysis to consider why electric vehicles have high prices; and - displays balance by contrasting free market forces with government policies; and - supports arguments with good use of the case material. 	4-6
L1	For an under-developed answer that <ul style="list-style-type: none"> - has a lack of rigour in the use of demand-supply analysis to consider why electric vehicles have high prices; and/or - has a lack of balance – little or no consideration of government policies; and/or - lacks use of the case material. 	1-3
Plus up to 2 marks for Evaluation		
E	For substantiated assessment on whether free market or government policies are more important for the high prices in the electric vehicle market.	1-2
(e)	Discuss the impact of increasing use of PMDs on the economic goals of the government.	[10]

Question Interpretation

Command word/ phrase	<i>Discuss the impact of...</i>	To present the positive and negative impact on how the increasing use of PMDs may impact economic goals in Singapore and come to a reasoned evaluative conclusion. The evaluation could choose to downplay the negative impacts or to play up the positive impacts.
Content	<i>Economic goals of the government</i>	Identify the various microeconomic and macroeconomic goals of a government (e.g. efficiency, equity, sustained economic growth etc.)
Context	<i>Increasing use of PMDs</i>	Apply analysis to the context of increasing usage of PMDs in Singapore.

Suggested Answers:

Introduction - Economic goals of the government:

The increasing use of PMDs in Singapore brings about both positive and negative impacts to Singapore and the government. In this answer, we will focus on microeconomic objectives of a government (a) Economic efficiency (b) Equity and also consider macroeconomic goal of achieving sustained growth.

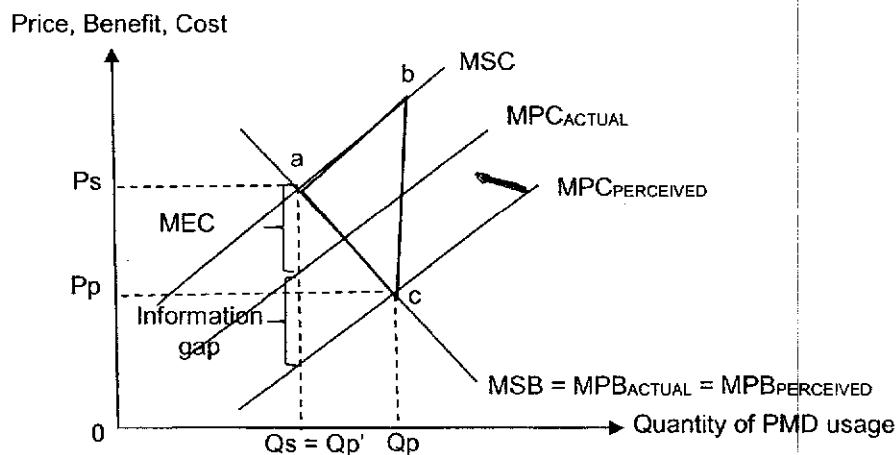
Development 1 – Explain the negative impacts incurred due to the increasing use of PMDs:

- Based on Extract 5, PMDs are a form of demerit good, where if left to the price mechanism, it is deemed to be over-consumed and hence, socially undesirable by the government, resulting in allocative inefficiency.
- In the consumption of PMDs, riders only consider their marginal private benefits (convenience of travel, thrill of speeding) and marginal private costs (electrical costs of charging the device, costs of illegal modification). However, these riders **ignore the marginal external costs (MEC)** or negative spill-over effects on third parties (pedestrians) who are affected by their reckless riding on narrow public walkways, resulting in injuries and hence, medical charges. Residents who live next to an owner

of a PMD may also be worried about fires due to the electrical malfunctioning of the device while charging and they too may incur medical fees if they are injured by the PMD fires.

- At the same time, riders themselves, may also **underestimate the costs to themselves** as they speed along these walkways, neither taking into account the possible loss of income if they were to be bed-ridden due to an accident, nor the full extent of cost incurred from the PMD catching fire while charging at home.
- As such, the perceived MPC might be lower than the actual MPC due to **imperfect information**.
- The **existence of negative externalities** creates a divergence between the MPC and the MSC. As riders also underestimate the full private costs of using their PMDs, they perceive the MPC to be lower than what it actually is.
- Diagrammatically, as represented in Figure 1, the MSC curve lies above the MPC_{actual} by the amount MEC, and the MPC_{actual} curve lies above the $MPC_{perceived}$ curve by the extent of the information gap. Assuming that there are no positive externalities, $MPB = MSB$.
- If left to the free market, the riders consume Q_p units of the PMD usage, where $MPB_{perceived} = MPC_{perceived}$, as they only consider their perceived private costs and benefits. However, the social optimal level of consumption is Q_s units, where $MSB = MSC$. Since $Q_p > Q_s$, there is **overconsumption of PMDs**.
- At Q_p , $MSC > MSB$. The additional usage of PMD consumed adds more to society's costs than to society's benefits. From Q_p to Q_s units, the total social costs (area Q_sabQ_p) exceeds the total social benefits (area Q_sacQ_p). The area abc represents the **deadweight loss which is the welfare loss to society when PMDs are not consumed at the social optimal level**.
- There is market failure as the private optimal quantity is allocative inefficient and social welfare is not maximised.

Figure 1: Market failure due to overconsumption of PMDs



Development 2 - Explain the positive impact due to the increasing use of PMDs:
Reducing income inequality and hence, improvement in equity for lower-income families:

- For an individuals who have mobility challenges, the PMD will help people like Mr Hafidz who uses the PMD as a tool in his food delivery service, improving his livelihood and allowing him to "provide for himself and his elderly parents".

- This will help to increase the incomes of lower-income earners like Mr Hafidz, and improving equity as an increased income will mean better access to necessities.

Promoting sustained economic growth + decreasing demand deficient unemployment:

- The availability of PMDs as a means of transport also **facilitated in the rapid growth of the food delivery industry**, which is depending on the efficiency of its riders to deliver the food from restaurants to consumers' homes. The speed and convenience afforded by PMDs made it **viable for riders to easily and cheaply achieve this, increasing the productivity of food delivery services**. The development of the industry further drives domestic consumption behaviour as there is a favourable change in taste and preferences towards the services provided by food delivery companies. With an increase in demand for food delivery services, this increases consumption expenditure (C).
- As such, companies like Grab, FoodPanda and Deliveroo are now further incentivised to expand and invest (I) in Singapore. **This increases both C and I in our AD, resulting in a multiple rounds of income-induced consumption. This will result in a multiplied increase in real output, leading to actual growth.**
- The **investments on labour training and capital by these food delivery companies** will also aid in **increasing the quantity and quality of labour and capital** in Singapore, resulting in an **increase in our productive capacity and AS. Potential growth occurs in Singapore.**
- Given that both actual and potential growth occurs, Singapore may experience **sustained growth** thanks to the consumption of PMDs.

Reducing unemployment

- Additionally, the increase usage of PMDs have provided "employment opportunities" as mentioned in Extract 5. **The increase in real output also increases the derived demand for production, including labour, decreasing demand-deficient unemployment.**
- The increase usage of PMDs also help to **improve structural unemployment**. PMDs allow for an easy access to a mode of "private transport". Compared to driving cars, it is not difficult to learn how to operate a PMD and to pick up a new skill. As such, individuals **who were previously structurally unemployed due to a mismatch of skills** will be able to easily pick up operating a PMD. Combined with the increase in demand for food deliverers as mentioned above, the increase usage of PMDs will also be able to help these individuals attain employment as a food deliverer.

Reducing negative externalities from ICE vehicles and hence promoting sustainable economic growth:

- Furthermore, as seen in Extract 5, PMDs are an "environmentally friendly alternative to cars and motorcycles for short trips" and "play an important role in our vision for a car-lite society". This implies that the utilisation of PMDs as the primary mode of transport for "first-and last-mile journeys" would help **reduce the negative externalities incurred in the overconsumption of motor vehicles** (e.g. air pollution due to carbon emissions). Sustainable growth indicates a rate of growth that can be sustained without creating other significant economic problems (such as depleted resources and environmental problems, particularly for future generations).

With a reduction in negative externalities, this will promote sustainable economic growth in Singapore.

Note: A total of 1 negative and 1 positive impact will suffice.

Evaluative Conclusion: *one ATMS point is sufficient.*

- **[Stand]** Given that there are both positive and negative impacts in the usage of PMDs in Singapore, there is a clear need for a regulated approach where the government is able to control the usage of PMDs to ensure that the increasing usage of PMDs will be beneficial for the economy.
- **[Alternative]** Policies to minimise the costs incurred to both the riders as well as third parties, such as education on the dangers of illegal modification, speeding and good riding etiquette, and the establishment of rules and regulation to enforce such etiquette will be useful in helping to reduce the negative impacts of increasing usage of PMDs.
- **[Alternative]** The Singapore government can put in place policies to enhance the benefits, for example, mandating food delivery companies to insure the riders and third parties who may be involved in road accidents in the process of delivery. There can also be expansion of pathways to allow for safer riding by PMD riders and hence, maximising the benefits that come with PMD riding.

OR

- **[Stand + Magnitude]** In conclusion, the negative impacts of increase usage of PMDs have been clearly felt in the past few years.
- **[Magnitude + Situation]** Despite the benefits of helping to grow "a multi-million food delivery industry in Singapore", there were alarming number of 4,900 accidents in 2019 due to PMD usage alone. In fact, in 2019, a 40-year-old private-hire driver died after his PMD caught fire and engulfed his flat in flames. Hence, the negative impacts of increase usage of PMDs are far more detrimental than the benefits and unless there are strict regulations imposed on PMD usage, the safety concerns will only increase in the future with more PMDs on the road.

Mark Scheme

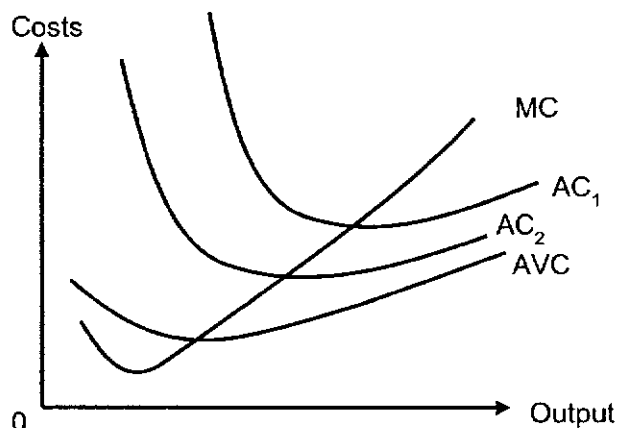
Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	<ul style="list-style-type: none"> • Developed and balanced analysis on the positive and negative impacts of the consumption of PMDs • Good use of evidence from extracts to support the answer. 	5–7
L1	<ul style="list-style-type: none"> • Underdeveloped and balanced analysis on the positive or negative impacts of the consumption of PMDs <p>OR</p> <ul style="list-style-type: none"> • Developed but one-sided analysis on either the positive or negative impacts of consumption of PMDs • Limited/poor use of evidence from extracts 	1–4
Level	Evaluation	Marks
E2	<ul style="list-style-type: none"> • Reasoned judgement on whether the consumption of PMDs has a more positive or negative impact in light of government intervention 	2–3
E1	<ul style="list-style-type: none"> • Unsupported judgement regarding the impact of consumption of PMDs in Singapore. 	1

CSQ2: Economic repercussions of COVID-19

(a)	The World Health Organisation declared the COVID-19 outbreak a pandemic on 11 March 2020. With reference to Table 2, explain which country suffered most from the pandemic. [2]	
<ul style="list-style-type: none"> • Singapore suffered most from the pandemic. [1m] • Singapore's PPP-adjusted GDP fell the fastest relative to the other countries from 2019 to 2020. [1m] (with a negative growth rate of 5.3% in 2020 while US's negative growth was smaller at 3.5% and China managed to enjoy some 2.3% growth) 		
(b)	Explain how the spread of COVID-19 has affected the relative importance of the components of aggregate demand in an economy. [5]	
<p>Explain the effect on Consumption/Investment/Net Exports component [any 2 for 2m]:</p> <ul style="list-style-type: none"> • The spread of COVID-19 has led to many people losing their jobs or their income cut. This would lead to a fall in <u>purchasing power</u> and lower consumption. <ul style="list-style-type: none"> ○ OR the <u>gloomy economic outlook</u> would cause households to cut back on consumption • With new lockdown measures and some sectors hit more severely than others, firms have <u>lower profits</u>. Along with <u>pessimistic economic outlook</u>, firms would reduce investments. • Due to <u>travel restrictions</u>, there would be a fall in tourist arrivals which is a <u>significant component of net exports</u> for most countries, especially for those reliant on tourism and hospitality industry. <ul style="list-style-type: none"> ○ OR <u>slump in economic activity</u> would mean less exchange of goods and services since <u>external demand</u> will decrease as trading partners experience fall in income. <p>Explain the effect on Government expenditure component [2m]:</p> <ul style="list-style-type: none"> • Government expenditure has increased as part of "aggressive" i.e. <u>expansionary fiscal policy to provide fiscal stimulus</u> to address the economic recession. • This would be in the form of expenditure (operational and/or development) that is <u>on goods and services</u> <p>Statement on relative importance to address question [1m]</p> <ul style="list-style-type: none"> • Relatively, the Government expenditure component has taken on <u>increased importance</u> while the other three components have shrunk as a proportion of AD. 		
(c)	(i)	Define fixed and variable costs. [2]
Fixed cost refers to a firm's cost of fixed factors of production and it <u>does not vary with the level of output</u> . [1m]		
Variable cost refers to a firm's cost of variable factors of production and it <u>varies directly with the level of output</u> . [1m]		
	(ii)	Using a diagram, explain the impact of rental waivers on the short run costs of a firm. [3]

Rent is a fixed cost. The rental waivers will lower a firm's average fixed cost (AFC), [1m] while average variable cost (AVC) and marginal cost (MC) remain unchanged. [1m]
 The fall in AFC reduces the gap between the average cost (AC) and AVC curves, which is represented by a fall in AC from AC_1 to AC_2 while AVC remains unchanged at AVC_1 . [1m for an accurately and fully drawn diagram that is explained]

Figure 2: Impact of rental waivers on short run costs



(d) Explain how COVID-19 might affect an economy's comparative advantage. [3]

CLT

(e) Discuss the impact of COVID-19 on inflation in the US. [8]

Question Interpretation:

Command word/ phrase	<i>Discuss the impact</i>	To examine the effect of the events in the case on US inflation rate. Response should include an overall judgement as to whether price level is likely to rise or fall in the US.
Content	<i>Inflation</i>	Relate the events to factors affecting AS & AS and analyse the effect on inflation using the AD/AS model.
Context	<i>Effect of Covid-19 on the US</i>	Extract 6: Unemployment in US, contraction of the tourism, hospitality and travel industries. Extract 8: Falling oil prices and higher min wage

Suggested Answers:

Introduction

- Inflation is defined as a sustained increase in general price levels.
- COVID-19 will exert both downward and upward pressures on the general price levels in the US.

Thesis – COVID-19 is likely to have a deflationary effect in the US due to the fall in AD and negative oil prices.

- The pandemic has led to a fall in Aggregate Demand (AD) as the "global economy slumps" and "shrinks by 4.4% in 2020". This is because parts of the economy such as the tourism and hospitality sectors will be adversely affected by travel restrictions, leading to a fall in net exports.
- With workers laid off, there will be lower consumption due to many losing their jobs or having a cut in income. The bleak economic outlook will also mean a fall in investment.
- As a result, there is an overall fall in AD and lower demand-pull inflation. (Support with a diagram with analysis)
- In addition, there is a fall in oil prices where it crashed from \$18 to -\$38. As oil is a key factor input in many production processes, there will be lower cost of production, with a corresponding rise in AS, illustrated by a downward shift. (Support with a diagram with analysis)
- (optional)
Due to the fall in investment, there will also be a negative impact on productive capacity and a corresponding leftward shift in AS especially if the pandemic is prolonged. This also drives up prices in the economy is near full capacity.

Antithesis – COVID-19 may result in upward pressures on general price levels due to higher minimum wages imposed.

- As seen in Extract 8, minimum wages will be raised in twenty states. As labour is a factor input in production in many production processes, higher wages will lead to higher cost of production, causing an upward shift in the AS. This would result in higher GPL and cost push inflation. (Support with a diagram with analysis)
- However, this is likely to be a small extent given that not all states are implementing higher wages and the amount of wage raise ranges from a few pennies to a dollar or more.

Evaluative Conclusion

- **[Stand]** Overall, the final impact of Covid-19 on US depends on the extent of the shifts between AD and AS. It is likely that there should be negative effect on inflation as a result of COVID-19.
- **[Magnitude]** The higher minimum wage only applies to 20 states, with some only raising wages by pennies. On the other hand, Covid-19 has caused massive unemployment of 8.9% indicating a much severe fall in AD. Moreover, the drastic fall in oil price as "world demand for oil fell rapidly" suggests a large extent in the fall in cost of production than the rise in minimum wage. Combining these effects, there is more likely to result in much lower inflation or even deflation in the US.

Mark Scheme:

Level	Knowledge, Application/Understanding and Analysis	Marks
L2	For a balanced and developed discussion the impact of COVID-19 on general price levels, well supported by relevant extract evidence.	4 – 6
L1	For an undeveloped answer that lacks balance and/or scope; or contains major conceptual inaccuracies; or largely does not address the question.	1 – 3

Evaluation		
E	For an answer that arrives at an analytically well-reasoned judgement about COVID-19 impact on inflation.	1 – 2
(f)	Discuss whether the policy of 'direct cash transfers' is most appropriate in addressing the growth challenges arising from COVID-19.	[10]

Question Interpretation

Command word/ phrase	<i>Discuss whether... is most appropriate</i>	Examine how the given policy and another policy work and their limitations/ unintended consequences, before evaluating which policy is likely to be most appropriate and why.
Content	<i>Policy of 'direct cash transfers'</i>	Explain how the policy of direct cash transfers works and its limitation/ unintended consequence, plus one other policy with its limitation/ unintended consequence
Context	<i>Growth challenges arising from COVID-19</i>	Use extracts to identify relevant growth challenges. Extract 6: Fall in C & X → negative actual growth Extract 8: exacerbated inequalities across society → non-inclusive growth <i>Focus of the answer should be on boosting actual growth and the inclusive aspect of inclusive growth, rather than potential, sustained, or sustainable growth.</i>

Suggested Answers:

Introduction

- As explained in part (b), COVID-19 has resulted in a fall in C, I and X, which may lead to a larger fall in AD due to the reverse multiplier effect, causing a multiplied fall in real output and hence negative actual growth.
 - This can be seen from Table 2, where Singapore and the United States experienced a fall in PPP-adjusted GDP between 2019 to 2020.
- At the same time, Extract 8 states that the "COVID crisis has really exacerbated inequalities across society".
- This implies that COVID-19 could bring about challenges in achieving 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.

Body

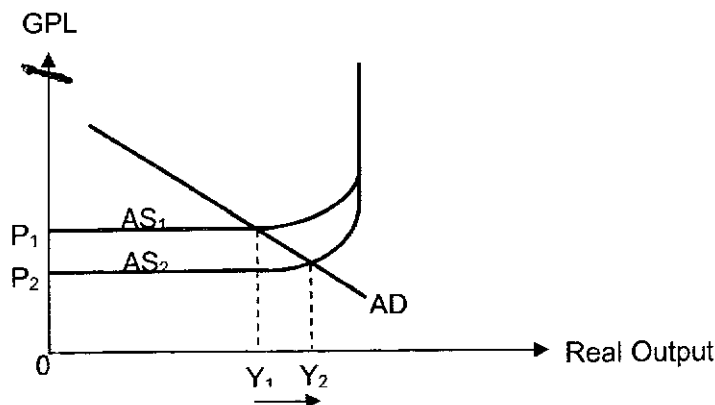
Policy 1: Direct cash transfers may be appropriate in addressing the challenges to inclusive growth arising from COVID-19.

- Direct cash transfers such as the cash payouts to all adult Singaporeans will increase the disposable income of Singaporean households. This increases their purchasing power, leading to an increase in consumer expenditure (C).
- With negative actual growth, there is likely to be spare capacity in the economy. The increase in C will trigger successive rounds of increase in income-induced consumption via the multiplier effect, leading to a larger increase in AD and hence real output, promoting actual growth.
- In addition, direct cash transfers that are targeted at the lower-income groups, such as the "Enhanced Workfare Special Payment of \$3,000" to lower wage workers (Extract 9) will boost the disposable income of the lower-income households, reducing the extent of income inequality. This promotes the achievement of inclusive growth.
- **However, direct cash transfers may be inappropriate due to poor consumer outlook.**
- As seen in Extract 6, IMF estimated that the global economy shrunk by 4.4% in 2020. The resulting global recession is likely to cause consumers to have poor confidence. The direct cash transfers may fail to increase consumption as households may be too pessimistic about their future incomes and choose to save the additional income instead. Hence, the extent of increase in C, AD and real output would be limited.

Policy 2: An alternative policy is rental waivers which acts as a supply-side policy to promote actual growth.

- Rental waivers help to lower the cost of production in the economy, increasing firms' profitability. This increases aggregate supply (AS), shifting the AS curve downwards from AS_1 to AS_2 in the Figure below. The increase in real output from Y_1 to Y_2 represents actual growth.

Figure 3: Impact of rental waivers on actual growth



- Also, more rental waivers can be given to smaller firms or producers with relatively lower income, such as stallholders at hawker centres, to mitigate the exacerbating inequality caused by COVID-19, promoting a more inclusive growth.
- **However, rental waivers may lead to possible debt burden and hence unintended consequences.**
- As seen in Extract 9, "these rental waivers will cost \$334 million", creating a huge strain on government's budget. This may result in a government running a budget

deficit and government debt. High levels of debt mean that future tax revenue will be needed to pay off such debts, thus resulting in less funding available for other areas of spending such as social services and infrastructure development. Future welfare is being sacrificed for the sake of raising current welfare.

- This unintended consequence applies to direct cash transfers as well.

Evaluative Conclusion

- **[Stand]** The policy of direct cash transfers is not most appropriate in addressing the growth challenges arising from COVID-19.
- **[Situation + Magnitude]** With a pessimistic consumer outlook resulting from the global recession, there may be limited increase in C from the direct cash transfers. In comparison, the policy of rental waivers is more appropriate as it provides a direct and more certain impact in keeping businesses afloat and boosting actual growth. While rental waivers may pose as a strain to a government's budget, instead of providing a blanket rental subsidy to all firms, governments can adopt Singapore's approach and target small and medium enterprises that need more help, with the most help given to lower income producers to ensure a more inclusive growth.

OR

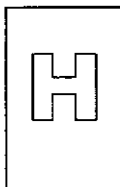
- **[Stand]** The most appropriate policy approach to address the growth challenges arising from COVID-19 is a combination of direct cash transfers and rental waivers.
- **[Situation]** With a pessimistic consumer outlook resulting from the global recession, there may be limited increase in C due to direct cash transfers. However, the policy is essential in reducing income inequality and targeting the achievement of inclusive growth. It can be complemented with rental waivers which provides a direct and more certain impact in keeping businesses afloat and boosting actual growth.
 - While both policies pose as a strain to a government's budget, it is less of a concern for economies with sufficient reserves such as Singapore who has obtained approval to tap on up to \$17 billion of reserves to finance measures to deal with the pandemic (Extract 9).

Mark Scheme:

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed answer that <ul style="list-style-type: none"> • has good balance – how the policies address challenges to inclusive growth arising from COVID-19 and their limitation/unintended consequences; • has good scope – discussion of 'direct cash transfers' and at least 1 other policy; • has good use of the case material. 	5 – 7
L1	For an underdeveloped answer that <ul style="list-style-type: none"> • lacks balance – two policies are explained with no balance; AND/OR • lacks scope – only 1 policy discussed; AND/OR • lacks use of the case material; AND/OR • shows major conceptual inaccuracies or largely does not answer the question. 	1 – 4

TJC 2021 J2 Preliminary Examination H2 Economics
CSQ Suggested Answers

Level	Evaluation	Marks
E	Up to 3 additional marks for a valid evaluative comment on whether the policy of 'direct cash transfers' is most appropriate in addressing the growth challenges arising from COVID-19.	1 - 3



TEMASEK JUNIOR COLLEGE
Preliminary Examinations 2021
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

Paper 2

9757/02

Monday 13 September 2021
2 hours 15 minutes

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

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

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.

Write your name and CG number on all the work you hand in.

Write in dark blue or black pen.

You may use a pencil for any diagrams or graphs.

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

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

Indicate the question number clearly in your answers.

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

This document consists of 3 printed pages and 1 blank page.



Answer **three** questions in total.

Section A

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

- 1** Faced with a drastic drop in revenue due to the Covid-19 safe distancing measures, some food and beverage (F&B) owners have succumbed to the challenges. In an attempt to stay afloat, eateries have employed strategies such as food delivery as well as reducing staff.
- (a) Explain why some firms shut down due to the pandemic while other firms remain in the market with subnormal profits. [10]
- (b) Discuss the strategies that firms may use to remain in business amidst the challenges brought about by Covid-19. [15]
- 2** Imperfect information can lead to overestimation or underestimation of benefits and costs.
- (a) Using real-world examples, explain **three** ways resources may be allocated inefficiently due to imperfect information. [10]
- (b) Assess the extent to which taxes can complement other policies to manage the underestimation of costs. [15]
- 3** Since 2018, US has imposed 25% taxes on the import of almost all foreign steel.
- (a) Explain the impact of the above taxes on the producer revenue in the US steel and US car markets. [10]
- (b) Discuss the measures, if any, that the US government could adopt to address the rising prices of cars due to the above taxes. [15]

Section B

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

- 4 In several developing economies, population growth has caused a rise in labour force that outstrips job opportunities. On the other hand, many developed economies are facing a different set of problems due to falling population levels.
- (a) Explain the economic problems of these population changes to developing and developed economies. [10]
- (b) Discuss the policies that can be used to manage the economic problems brought about by the above population changes. [15]
- 5 While governments aim to attain the macroeconomic goals as a means to higher standard of living, the policies they adopt to achieve them tend to have varying outcomes.
- (a) Explain why the use of interest rate as an expansionary tool might result in varied outcomes for different countries. [10]
- (b) Assess the view that inclusive growth will always lead to higher living standards. [15]
- 6 South Korea and Singapore are small and open economies with a balance of trade that is influenced by global events and local policies.

Selected Indicators from South Korea

Indicator	2018	2019
Inflation (annual %)	0.48	-0.92
GDP per capita (constant 2010 US\$)	28,158	28,675
Monthly spending on South Korean pop music (K-pop) worldwide (US\$ per person)	4.9	9.2

Source: World Bank, Statista, accessed 4 September 2021

- (a) Explain the likely impact of the above changes on the balance of trade for South Korea in 2019. [10]
- (b) Assess the use of a managed float exchange rate regime to address a balance of trade deficit in a small and open economy like Singapore. [15]

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- 1 Faced with a drastic drop in revenue due to the Covid-19 safe distancing measures, some food and beverage (F&B) owners have succumbed to the challenges. In an attempt to stay afloat, eateries have employed strategies such as food delivery as well as reducing staff.
- (a) Explain why some firms shut down due to the pandemic while other firms remain in the market with subnormal profits. [10]

Question Interpretation

Command word/ phrase	<i>Explain why...</i>	Give clear reasons and explain the theory behind the question. Cause and effect relationships must be explained thoroughly, with clear analysis of how the cause leads to the effect.
Content	<i>Shut down... Subnormal profits</i>	Explain the short run shut down condition ($P > AVC$ and $P < AVC$), highlighting the difference between variable costs and fixed costs, in order to explain why a firm will choose to remain in the market despite making subnormal profits. Explain, with clear firm analysis, how subnormal profits arises due to the pandemic conditions (Circuit Breaker measures, or a decrease in income levels)
Context	<i>No specified context but examples should be given to illustrate the concepts</i>	Possible context: F&B industry

Suggested Answers:

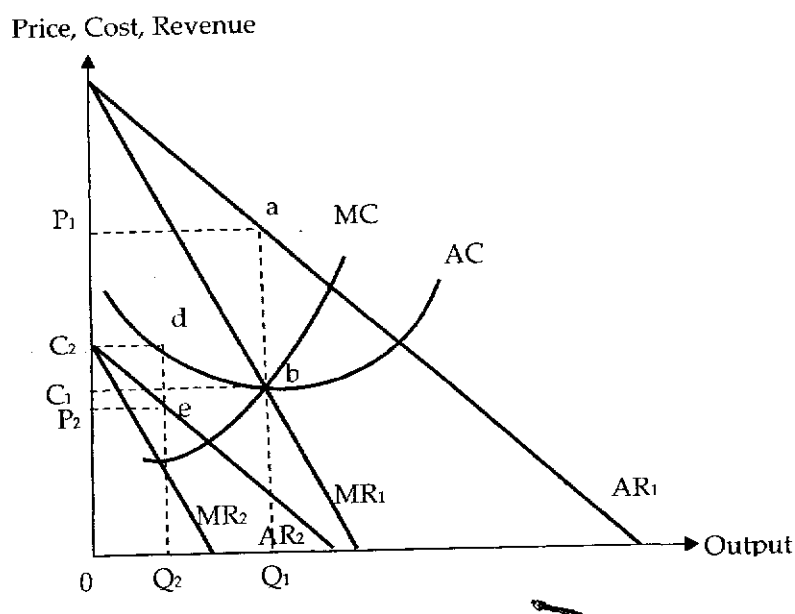
Introduction:

- In the short run, a firm incurs both fixed cost and variable cost.
- Fixed cost are incurred regardless of the level of output and are incurred even in a firm chooses to shut down. Examples of fixed costs include rental payments for the shop space, payments for machines and fire insurance etc.
- On the other hand, variable cost are dependent on a firm's production level and examples of variable costs include wages and raw materials needed for production.
- A firm may choose to shut down in the short run based on the conditions of subnormal profits and the short run shut down condition.

Development 1: Explain how the pandemic leads to a situation of subnormal profits

- Due to the Covid-19 restrictions, restaurants may see a fall in demand for dining in due to the dining restrictions and people being more cautious about eating outside. This will result in a decrease in demand for dining in and restaurants may see a fall in their AR from AR_1 to AR_2 as shown in Figure 1 below. Furthermore, there may also be a fall in income levels due to the decrease in economic output or some individuals may lose their jobs during this pandemic. Diagrammatically, firms may earn a supernormal profit of area P_1abC_1 , however with the fall in AR, firms may now be earning a subnormal profit of C_2deP_2 .

Figure 1: Fall in profits due to the pandemic



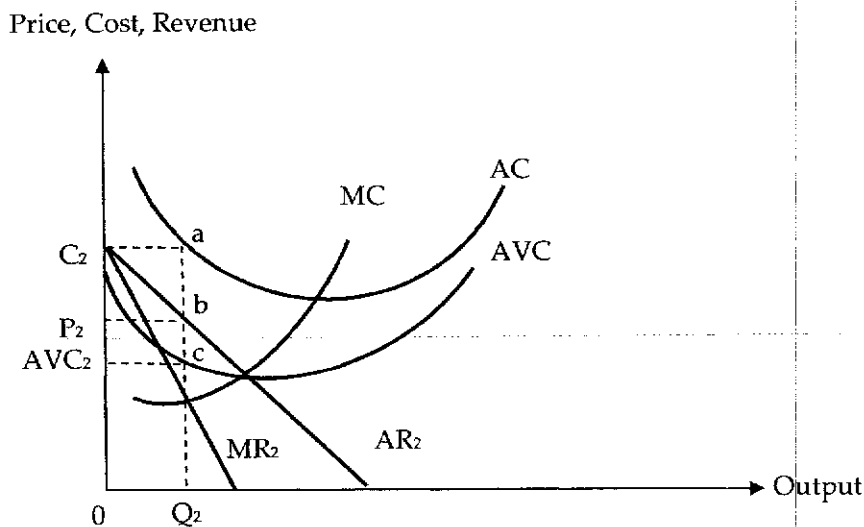
Development 2: Explain why firms will choose to remain in the market when earning subnormal profits and when $AR > AVC$

- In the short run, if a firm is earning subnormal profits but as long as the firm's revenue is able to cover its variable costs, it will still remain in the market ($P > AVC$) average variable cost is more than its average revenue ($AR < AVC$).
- Should the firm choose to remain in production, it will only add to the total variable cost of production (TVC) since total fixed cost does not vary with the level of output. At the same time, the firm will earn revenue from the sale of its output (TR).
- In Figure 2 below, the firm is experiencing subnormal profits in the short run as $AC > AR$ at the profit maximizing level of output, Q_2 . The firm makes subnormal

profits equal to the area C_2abP_2 if it chooses to produce at the profit maximizing level of output.

- Given that $AR > AVC$ at the profit maximizing output of Q_2 , If the firm chooses not to produce, it will incur a loss equal to its total fixed cost of area C_2acAVC_2 .
- If the firm chooses to produce at the profit maximizing level of output, it will incur a loss of area C_2abP_2 which is smaller than area C_2acAVC_2 .
- The difference between TR and TVC, area P_2bcAVC_2 has been used to offset some of the TFC that the firm incurs if it chooses to produce. Therefore, losses are minimized by choosing to produce rather than to shut down in the short run. This essentially means that the firm loses less if it chooses to remain in the market, hence, they will choose to do so, instead of shutting down.

Figure 2: Firm that earns subnormal profits but has $AR > AVC$



Notes:

- The above diagrammatic analysis is optional – students can choose to explain in words too!
- Students may choose to explain how firms who have accumulated supernormal profits in the past may be able to offset the current losses, hence they will not shut down. Such an argument will need to include how the firm (either oligopoly or monopoly), was able to sustain supernormal profits in the past due to the high barriers to entry. This argument would require some brief examples as well.

Development 3: Explain why firms will choose to shut down when earning subnormal profits and when $AR < AVC$

- Conversely, in the short run, if a firm is earning subnormal profits but the firm's revenue is unable to cover its variable costs, it will not remain in the market and shut down instead ($P < AVC$)
- In the short run, if the firm is unable to earn enough revenue to even cover the AVC, the firm will choose to leave the market. Should a firm choose to leave the industry, it will have an operating loss that is equal to its total fixed cost, which will be incurred even if output is zero.
- However, if the firm chooses to remain in businesses, with a $P < AVC$, the firm will suffer even greater losses of $AVC + AFC$. Hence, in order to minimise losses, the firm will choose to shut down instead.

Conclusion:

In the short run, for firms that are earning subnormal profits, the decision to shut down depends on whether the firm's AR is above the AVC, in order to offset some AFC.

Mark Scheme

Knowledge, Application/Understanding and Analysis		
L3	For an well-developed answer that: <ul style="list-style-type: none"> • employs good use of economic theory to analyse how Covid-19's safe distancing measures have resulted in subnormal profits (supported with a diagram); and • explains the shut-down condition and uses rigorous economic analysis to explain the two situations ($P > AVC$ and $P < AVC$) 	8 – 10
L2	For an under-developed answer that: <ul style="list-style-type: none"> • analyses only one of the two situations in the question; and/or • did not support analysis with revenue OR costs analysis OR <ul style="list-style-type: none"> ◦ Did not provide an explanation as to how subnormal profits arise due to the pandemic; and/or • did not provide any application to real-world context. 	5 – 7
L1	For answer that is largely descriptive and have limited application of economic concepts, and/or contains serious conceptual errors.	1 – 4

1 Faced with a drastic drop in revenue due to the Covid-19 safe distancing measures, some food and beverage (F&B) owners have succumbed to the challenges. In an attempt to stay afloat, eateries have employed strategies such as food delivery as well as reducing staff.

(b) Discuss the strategies that firms may use to remain in business amidst the challenges brought about by Covid-19. [15]

Question Interpretation

Command word/ phrase	<i>Discuss the strategies</i>	Provide a balanced response to the strategies that a firm can use to remain in business amidst the challenges brought about by Covid-19. Response requires an evaluative conclusion to provide a judgement on the relative usefulness/effectiveness of the strategies.
Content	<i>Strategies that firms may use to remain in business</i>	Responses may choose minimally three strategies (pricing or non-pricing) and explain how the strategy works to address the challenges brought about by Covid-19 and its associated limitations.
Context	<i>Amidst the challenges brought about by Covid-19</i>	No specified context but preamble suggests two strategies related to the F&B industry. Responses need to be sensitive to the phrase "challenges brought about by Covid-19" to note that the analysis should start from the firm facing subnormal profits (link to part a).

Suggested answers:

Introduction:

- In order to remain in business, firms should consider using strategies that help to increase their revenue or reduce their cost of production. This essay will use the context of the F&B industry to suggest how firms can enact strategies in order to remain in business in spite of the Covid-19 challenges.

Development 1: Diversification of firms (to increase AR and MR)

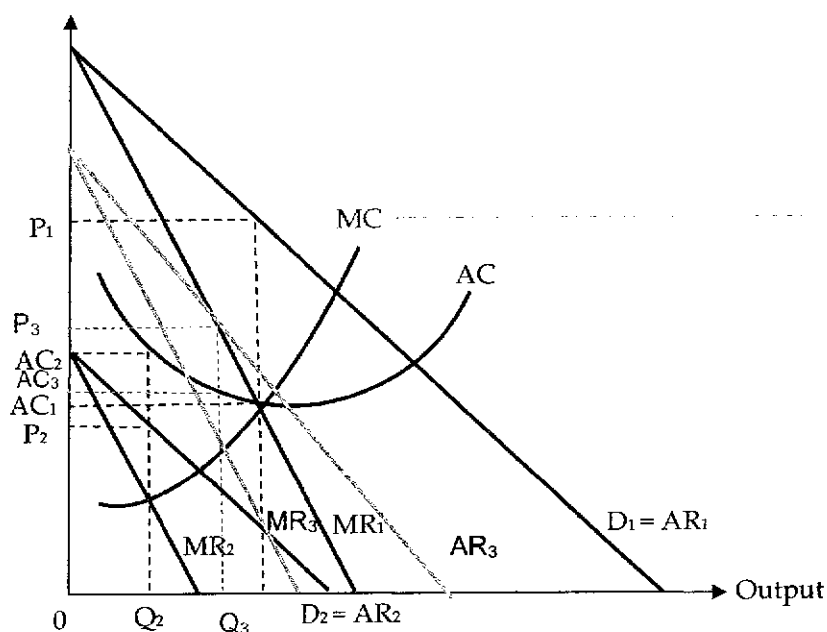
- Product diversification allows the firm to enter new markets and generate new sources of revenue. By providing a wider range of products, the firm is able to cater to the different needs of consumers and therefore earn higher revenue and profits as a whole.
- During the pandemic, this is especially useful when the firm's usual sources of revenue may be impacted due to the Covid-19 restrictions. For example, due to the restrictions during Circuit Breaker in 2020, Singaporeans were not allowed

to dine out. Hence, restaurants were not able to depend on their usual means of profiting from the sales from dining in. As such, restaurants started to pivot towards food delivery services or takeaways, taking advantage of existing platforms such as GrabFood, FoodPanda or OddleEats, to cater to customers who still wish to patronize the restaurant despite the restrictions.

- Diagrammatically, when the firm chooses to diversify into the food delivery or takeaway market, the firm is able to cushion the fall in AR and MR or even see an increase in overall demand. With diversification, instead of AR falling to AR₂, AR may only fall to AR₃ instead, hence resulting in a fall in profits that will still result in a supernormal profits of $P_3 - AC_3$ instead of the subnormal profits of $P_2 - AC_2$.

Figure 3: Diversification strategy and its impact on firms' profit levels

Price, Cost, Revenue



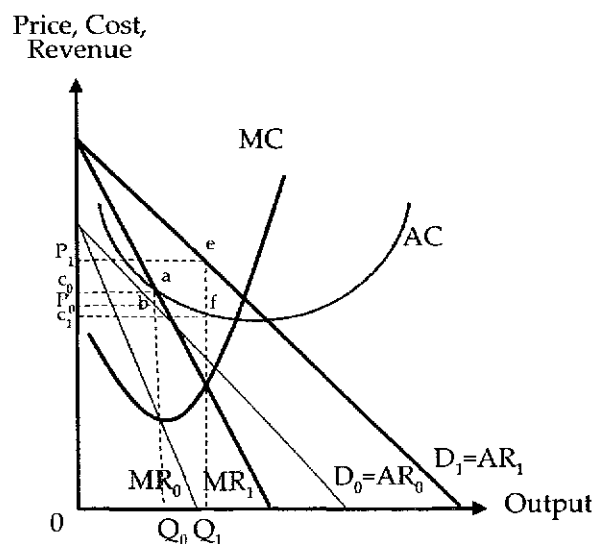
- Furthermore, in the long run, such diversification can help the firm spread risks, especially with the ever-changing Covid-19 restrictions, and increase its overall brand loyalty, increasing long-run profits.
- **Limitations:** However, there may high costs associated with developing the food takeaway or delivery. In order to develop new food dishes that travel well during delivery or takeaway/ delivery options, firms may have to conduct research to ensure that the new food dishes are suitable for the new market. Furthermore, F&B firms may have to conduct market research on the delivery prices or spend additional costs to pay the platforms or merchants to host their F&B business.

Hence, firms who may be completely new to this market such as hawker stalls may find that this is not a cheap strategy to implement.

Development 2: Firms can engage in product differentiation in order to increase revenue.

- Product differentiation is a non-price strategy where a firm seeks to differentiate its product from its rivals'. By differentiating its product, the firm can potentially enjoy greater market share and market power by catering more to the needs of consumers. The aim of product differentiation is to further develop or highlight the differences between the products of a firm and its rivals.
 - For example, F&B firms can carry out advertisements by engaging social media influencers on Instagram to conduct promotional campaigns. This will help to create brand loyalty and to appeal to consumers when they see their favourite celebrities endorsing a certain product. For example, MacDonalds engaged FoodKing by Night Owl Cinematics and the social media influencers Ryan and Aiken to promote the new McCrispy Chicken which reached out to over 18,000 consumers via Instagram.
 - Additionally, firms can also conduct research and development to enhance the flavours or produce new versions of their products such as the Hainanese Chicken Rice Burger by MacDonalds, which will also make burgers from MacDonalds more unique.
- Diagrammatically, this is represented by an outward shift of the demand curve from D_0 to D_1 as seen in figure 4 below. Assuming cost remain constant (this simplifies the analysis significantly), the profit maximising level of output where $MC = MR$ will increase from Q_0 to Q_1 and the profit maximising price will increase from P_0 to P_1 . This results in a change in profits level from a subnormal profits of C_0abP_0 to supernormal profits of P_1efC_1 .

Figure 4: Effect of product differentiation on revenue and profits

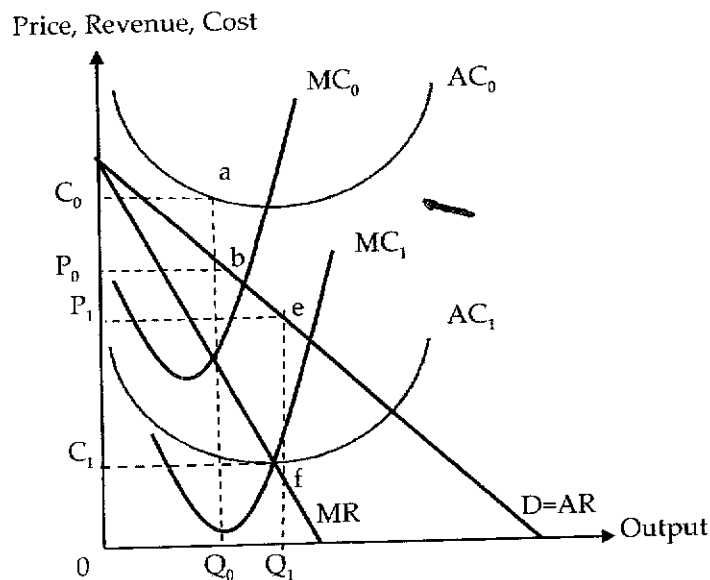


- **Limitations:** However, attempts at product differentiation may end up costing more as firms need to run advertisement or promotional campaigns. Furthermore, rival firms may also attempt to imitate or retaliate with their own promotions or campaigns. This may reduce the effectiveness of the campaign,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

Development 3: Firms can engage in cost cutting measures

- By engaging in research and development into improvements in technology or efficiency in production processes, the firm may be able to lower its average cost of production and therefore earn higher profits. For example, F&B firms may depend on technology to prepare their food or drinks, so that they may reduce staffing and cut costs on paying labour wages. Local cafés such as Ratio Café and Lounge have developed fully automated robots that replace baristas. This allows the firms to reduce costs spent on wages which may see an increase as Singapore may see a decline in foreign labour due to the inaccessibility of border closures
- This results in a decrease in cost of production, hence both AC and MC decreases. This is shown by a downward shift of the AC and MC curves from AC_0 to AC_1 and MC_0 to MC_1 in figure 5. As a result, the profit maximising level of output and price changes from P_0 to P_1 and Q_0 to Q_1 respectively. The level of profits change from subnormal profits of C_0abP_0 to supernormal profits of P_1efC_1

Figure 5: Effect of cost-cutting measures on profits



- **Limitations:** As with any research and development programme, there are extremely high cost and a low certainty of outcome. Consumers may also be sceptical of the quality of the coffee brewed by a robot and may not take to the new innovation, which may lower AR/MR in the long run, negating any potential increases in profits due to the cost-cutting measures.
- The firm may still have to hire a staff to ascertain the quality and taste of the food or drink in order to give assurance, which may not help to decrease the cost of production eventually.

Note: any other non-pricing strategy that helps to reduce costs or increase revenue will be accepted if explained thoroughly with rigour and balance. Pricing strategies such as price discrimination will be accepted as well with sufficient rigour and balance.

Evaluative Conclusion:

- **[Stand]** In light of the Covid-19 challenges, firms should engage in a combination of strategies that allow for firms to cut costs as well as increase revenue.
- **[Situation + Time]:** Due to the ever-changing nature of the Covid-19 safe distancing measures, in the short run, firms should focus on responding quickly to the changing dining regulations in order to ensure continued patronisation by carrying out product differentiation via advertisements and promotions on social media platforms, in order to "Covid proof" their business. This will help to cushion the fall in revenue due to the changing regulations. However, F&B firms should also ensure that they carry out process innovation or diversification strategies in the long run to ensure that there are real differences in their products compared to rival firms.

Mark Scheme:

Knowledge, Application/Understanding and Analysis		
L3	For a balanced answer that <ul style="list-style-type: none"> • provides a rigorous analysis of at least three different strategies (how it works and the limitations) to increase profits in light of the Covid-19 situation. • well-contextualised to a chosen market (could be F&B or any other contexts) bringing in key concerns relevant to the context of strategies that help a firm remain in business due to the challenges of Covid-19. 	8 – 10
L2	For an answer that: <ul style="list-style-type: none"> • lacks sufficient scope; analyses only two strategies OR • lacks a rigorous analysis of how the strategy works <u>and</u> limitations/unintended consequence of at least three strategies to address the subnormal profits OR 	5 – 7

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	<ul style="list-style-type: none"> an answer that is rigorous but not balanced; analyses only how the strategy works or limitations/unintended consequence of at least three strategies to address the subnormal profits OR answer lacks application to a real-world context or understanding of the challenges of Covid-19 	
L1	<p>For an answer that:</p> <ul style="list-style-type: none"> For a descriptive answer that mainly stated the different strategies that could be adopted, with limited or erroneous explanations of how the strategies work and/or their limitations. 	1 – 4
Level	Evaluation	Marks
E3	For an answer that uses economic analysis to arrive at a well-reasoned judgement on the relative appropriateness/effectiveness of the different strategies to address the subnormal profits of firms and hence how to remain in business in light of the Covid-19 challenges.	4 – 5
E2	For an answer that makes some attempt at a judgement about the relative appropriateness/effectiveness of the different strategies to address the subnormal profits of firms and hence how to remain in business in light of the Covid-19 challenges.	2 – 3
E1	For a largely unexplained judgement that addresses the question of the appropriateness/effectiveness of the different strategies, but is not supported by economic analysis.	1

2 Imperfect information can lead to overestimation or underestimation of benefits and costs.

(a) Using real-world examples, explain three ways resources may be allocated inefficiently due to imperfect information. [10]

Question Interpretation

Command word/ phrase	<i>explain three ways</i>	This is a cause and effect question. The effect is given and you are to explain three causes
Content	<i>resources may be allocated inefficiently</i> <i>imperfect information</i>	This is the effect that you are given in the question. This is the causal factor and it's further broken down in the preamble!
Context	<i>Using real-world examples</i>	There will be a heavier-than-usual contextual requirement for this question as it is explicitly stated in the question, so your econs content must be backed up by real-world examples.

Suggested Answer

Introduction

- When resources are allocated inefficiently in markets, we say that market failure has occurred and this can be caused by imperfect information, where benefits or costs are over- or under-estimated.
- These will be explored from a consumer's perspective and we will be looking markets such as those where there are heavy advertisements, vaccinations, education and cigarettes.
- In this essay, to simplify the analysis to focus on imperfect information, we will make the assumption that there are no positive or negative externalities in the markets to be analysed.

In the answer below, we present four key arguments but three would suffice. Students who have explained asymmetric information will also be credited, but take note that such answers could have taken better reference to the preamble.

Key Argument 1: An overestimation of benefits due to advertisements can lead to overconsumption and allocative inefficiency

- In markets where there are heavy use of advertisements, e.g. for luxury brands, consumers may over-estimate the benefits of buying these goods, as they over-estimate the benefits that it brings to their social standing or general well-being.
- When left to the free market, this creates a divergence between the actual benefits (MPB_{ACTUAL} such as durability and functionality) and the perceived benefits ($MPB_{PERCEIVED}$) of the good.

- As seen in Figure 1, when making a decision of how much to consume, consumers only consider their perceived private benefits and private costs (e.g. the costs of the luxury bag) and may end up over consuming the good at Q_p (where $MPC = MPB_{PERCEIVED}$) instead of Q_s (where $MSC = MSB = MPB_{ACTUAL}$).
- This would lead to a deadweight loss of area abc and hence allocative inefficiency.

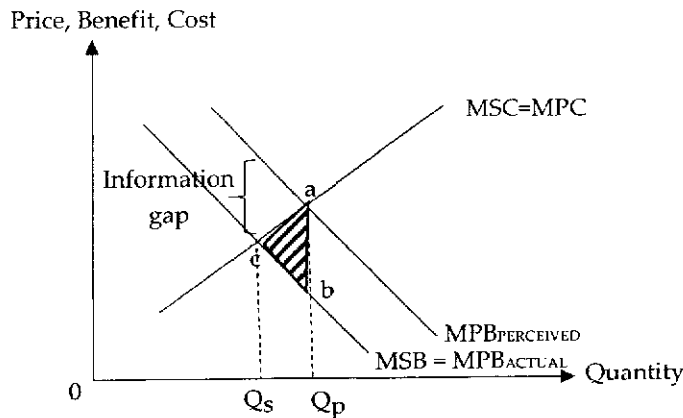


Figure 1 – overconsumption due to overestimation of benefits

Key Argument 2: An overestimation of costs in markets such as vaccinations and surgery can lead to under-consumption and allocative inefficiency

- In markets such as vaccinations, consumers may over-estimate the costs in terms of their chances of side-effects or the pain of injections.
- When left to the free market, this creates a divergence between MPC_{ACTUAL} (the actual costs) and $MPC_{PERCEIVED}$ (the perceived costs).
- When making a decision of how much to consume, consumers only consider their private benefits (safety from disease) and perceived private costs and may end up under-consuming the good at Q_p (where $MPC_{PERCEIVED} = MPB$) instead of Q_s (where $MSB = MSC = MPC_{ACTUAL}$).
- This would lead to a deadweight loss of area abc and hence allocative inefficiency.

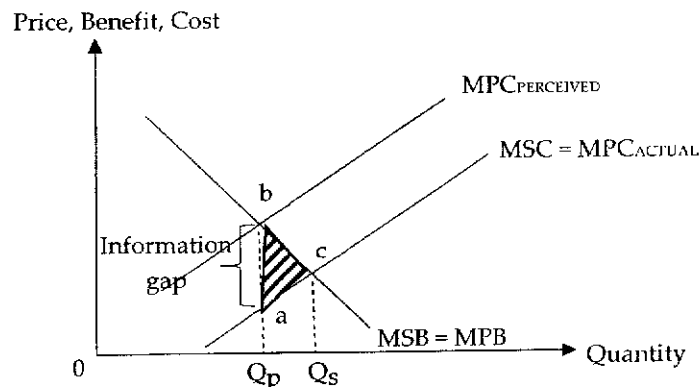


Figure 2 – underconsumption due to overestimation of costs

Key Argument 3: An underestimation of benefits in markets such as education can lead to underconsumption and allocative inefficiency

- In markets such as education, consumers may under-estimate the benefits of education in terms of the increased future income or the joy of the learning process.
- When left to the free market, this creates a divergence between MPB_{ACTUAL} and the $MPB_{PERCEIVED}$ of the good.
- When making a decision of how much to consume, consumers only consider their perceived private benefits and private costs (e.g. school fees) and may end up under-consuming the good at Q_p (where $MPC = MPB_{PERCEIVED}$) instead of Q_s (where $MSC = MSB = MPB_{ACTUAL}$).
- This would lead to a deadweight loss of area abc and hence allocative inefficiency

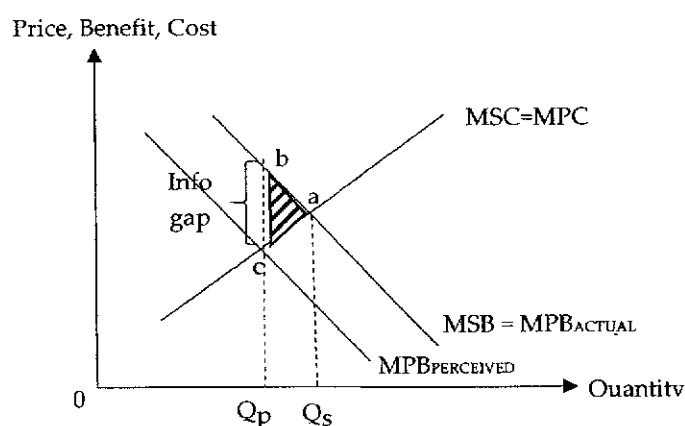


Figure 3 – underconsumption due to underestimation of benefits

Key Argument 4: An underestimation of costs in markets such as cigarettes can lead to overconsumption and allocative inefficiency

- In markets such as cigarettes, consumers may under-estimate the costs in terms of the chances of getting lung diseases.
- When left to the free market, this creates a divergence between MPC_{ACTUAL} and $MPC_{PERCEIVED}$.
- When making a decision of how much to consume, consumers only consider their private benefits ('high' from smoking) and perceived private costs (monetary cost of the cigarettes) and may end up over-consuming the good at Q_p (where $MPC_{PERCEIVED} = MPB$) instead of Q_s (where $MSB = MSC = MPC_{ACTUAL}$).

- This would lead to a deadweight loss of area abc and hence allocative inefficiency

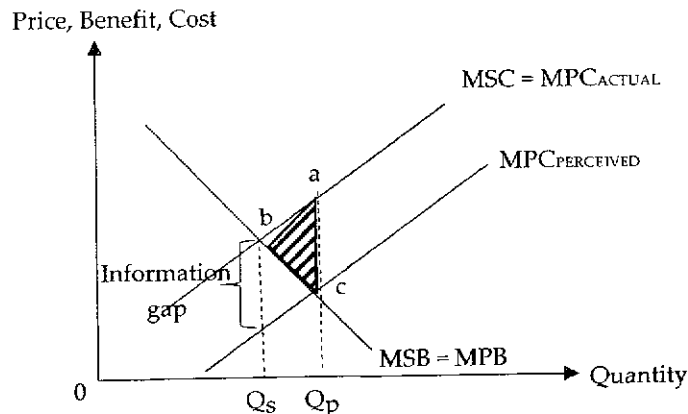


Figure 4 – overconsumption due to underestimation of costs

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that <ul style="list-style-type: none"> provides a rigorous explanation of how various sources of imperfect information leads to allocative inefficiency; and has a good scope of at three types of imperfect information; and shows good application of real-world examples to illustrate the different types of imperfect information. 	8 – 10
L2	For an under-developed answer that <ul style="list-style-type: none"> lacks a rigorous explanation of imperfect information, without consistent clear links to allocative inefficiency; and/or lacks scope - only thoroughly explains at most two types of imperfect information; and/or lacks consistent accurate application of real world examples. 	5 – 7
L1	For an undeveloped answer that <ul style="list-style-type: none"> is descriptive, lacking in accurate application of economic theory to explain allocative inefficiency; and/or only has one well-explained source of imperfect information; and/or missing use of any real world examples. 	1 – 4

2 Imperfect information can lead to overestimation or underestimation of benefits and costs.

(b) Assess the extent to which taxes can complement other policies to manage the underestimation of costs. [15]

Part (b) Question Interpretation

Command word/ phrase	<i>Assess the extent</i>	A statement is given for you to agree with or refute in this question
Content	<i>taxes can complement other policies to manage the underestimation of costs</i>	This is the given statement. You will need to briefly explain how taxes work first before considering whether it can complement other policies
Context	No explicit context	A context like cigarettes would help you to make your points clearer.

Suggested Answer

Introduction – brief overview of how taxes work:

- An example of an underestimation of costs can be found in the market for cigarettes, and this can lead to allocative inefficiency as explained in part (a).
- Taxes can be applied to such as market to reduce the allocative inefficiency as it would increase the $MPC_{PERCEIVED}$ towards $MPC_{ACTUAL} = MSC$ and this can reduce the overconsumption issue and hence the deadweight loss, improving allocative efficiency.
- Taxes can be complementary to other policies but at the same time, it has its limitations.

Thesis 1: Taxes can complement long term policies like public education as it is relatively quick to be implemented as compared to public education

- In the case of cigarettes, public education works by educating consumers on the true costs of smoking such as the negative health effects and can be enacted in the form of compulsory health warning labels on all cigarette packs.
- This would work to increase the $MPC_{PERCEIVED}$ towards $MPC_{ACTUAL} = MSC$ and this can reduce the overconsumption issue and hence the deadweight loss, improving allocative efficiency.
- However, public education tends to have an uncertain effect and it could take a long time for mind-sets to be changed, making it more effective as a long-run policy. Therefore, taxes can complement such an initiative in the short run as they are much quicker to implement as taxes are just about changing incentives through prices, which people might react more quickly to.

Thesis 2: Taxes can complement policies such as rules and regulations that require monitoring and enforcement costs

- In the case of rules and regulations for markets such as cigarettes, the government can limit the consumption levels by placing restrictions on the minimum age before one can purchase cigarettes (21 years old in Singapore) and there are also

regulations in place to limit where people can smoke (e.g. in designated outdoor smoking areas in Singapore). This would reduce the convenience of smoking and reduce the MPB of smoking, reducing the consumption levels to a level that is close to Q_s .

- However, this requires active monitoring and enforcement by the police force and legal teams, which would require the use of public funds and can be difficult to sustain in the long run. A frequent lack of punishment might lead to people flouting the rules more often and reduces the effectiveness of the policy in reducing consumption levels.
- By complementing this policy with taxes on cigarettes the tax revenue collected can provide a source of revenue which can be used to fund such monitoring efforts and make the rules and regulations more sustainable in the long run.

Anti-thesis 1: Taxes may not complement other policies well due to the limitations of taxes

- As information is imperfect in the real world, a government is likely to have difficulty in attaching a monetary value to the exact extent of imperfect information. In the worst case scenario, an over-estimation of the consumer's info gap can occur. This could lead to the government implementing excessively high taxes that can cause a case of government failure where the welfare loss is greater after the government intervened.
- In the case of a good like cigarettes which is very addictive, the impact of taxes may not be significant in reducing consumption as the demand tends to be very price inelastic. Therefore there may be little significant effect on consumers when prices are increased and they do not reduce their quantity demanded significantly. This might make it less useful as a short run policy.
 - **[Magnitude]** However, it should be noted that while a price inelastic demand would limit the effectiveness of taxes in reducing consumption, it would increase the amount of tax revenue collected – making it more useful as a complement to raise funds for other strategies to be enacted.

Evaluation conclusion:

- **[Stand + Magnitude]** Given the nature of taxes as one of the few policies that can generate revenue for a government, taxes can complement other policies to a large extent, especially policies that might have a heavier strain on a government's budget.
- **[Situation]** However, the degree of complementarity does depends on the market. For example in markets such as drugs in Singapore with widespread bans and a death penalty in place for its sales, there isn't really need taxes as a complement as there are other strong disincentives in place. In markets such as cigarettes and alcohol, taxes would therefore work better as a complement.
- **[Situation]** The extent of the limitations mentioned in this essay also depends on the country. For small country like Singapore, it is easier to manage the collection of taxes and data is more readily available to get a better estimation of the over-consumption issue due to imperfect information. Also, in a small country it is easier

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to calibrate the taxes over time to reach an optimal level of taxes, making it a good complement for other policies.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that <ul style="list-style-type: none"> • is rigorous in explaining how taxes work using market failure analysis and how it can complement other policies; and • is balanced by explaining some of the limitations of taxes; and • uses real world examples appropriately. 	8-10
L2	For an under-developed answer that <ul style="list-style-type: none"> • lacks a rigorous explanation – lacking use of market failure analysis and with some gaps in the explanation of taxes or other policies; and/or • lacks balance – only thoroughly explains how taxes may <u>or</u> may not complement other policies; and/or • lacks clear and consistent use of real-world examples. 	5-7
L1	For an undeveloped answer that <ul style="list-style-type: none"> • is descriptive, lacking in application of economic theory, and/or • contains serious and pervasive conceptual errors, and/or • is largely irrelevant and not answering the question. 	1-4
Level	Evaluation/Synthesis	Marks
E3	For an answer that uses economic analysis to arrive at a well-reasoned judgement on the extent to which taxes can complement other policies.	4 – 5
E2	For an answer that makes some attempt at a judgement on the relevance of taxes in complementing other policies. However, there may be some logical flaws in the judgement and/or inaccuracies in the synthesising process.	2 – 3
E1	For largely unsubstantiated judgement(s).	1

3 Since 2018, US has imposed 25% taxes on the import of almost all foreign steel.

(a) Explain the impact of the above taxes on the producer revenue in the US steel and US car markets. [10]

Part (a) Question Interpretation

Command word/ phrase	<i>Explain</i>	Give clear reasons and explain the theory behind the question.
Content	<i>Impact of the above taxes on producer revenue</i>	Show understanding of the concept of taxation and its impact on revenue with application to PED_{UScars}
Context	US steel and US car markets	Apply analysis to these two markets.

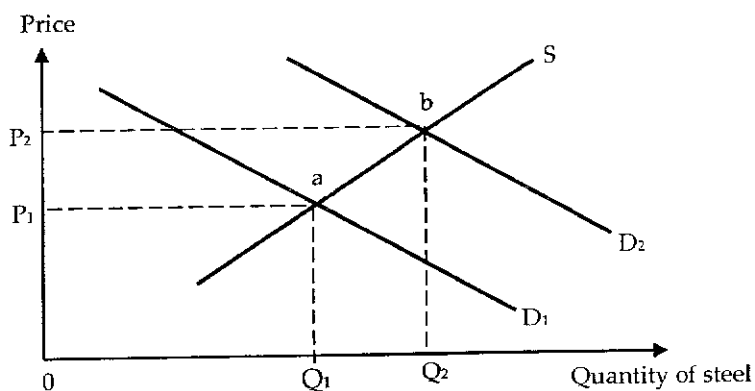
Introduction:

- The impact on the producer revenue in both markets depends on how they are affected by the import taxes on foreign steel.
- It is essential to understand the relation between foreign steel and the respective markets, where it is seen as a substitute for US steel and a factor input for US cars.

Body 1: Impact of above taxes on US steel market (assuming $XED_{US\ steel} > 1$)

- \uparrow price of foreign steel due to the 25% import tax \rightarrow \downarrow Quantity demanded of foreign steel
- As US steel is seen as a close substitute to foreign steel with a cross elasticity of demand that is likely more than 1, this results in a more than proportionate \uparrow demand for US steel.

Figure 1: Effects of an increase in demand for US steel

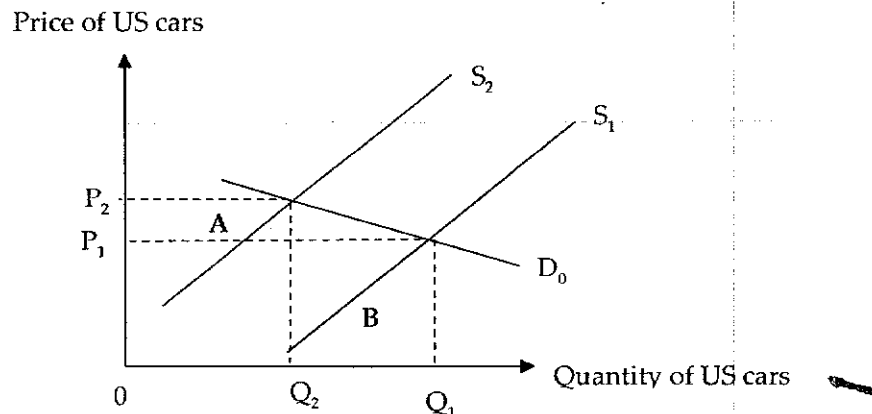


- As such, US steel producers will see an **increase in producer revenue** from area P_1aQ_10 to area P_2bQ_20 (as seen in Figure 1).

Body 2: Impact of above taxes on US car market (assuming $PED_{US\ cars} > 1$)

- \uparrow price of foreign steel due to the 25% import tax + \uparrow price of US steel (as seen above) \rightarrow \uparrow cost of production of cars as steel is an essential factor input
- \downarrow supply of US cars given this increase in cost of production
- In order to understand the impact on producer revenue, there is a need to consider the PED of US cars.
- As US cars (e.g. Ford, Chevrolet) are highly substitutable with other imported cars (e.g. Honda, Toyota, Audi), the demand for US cars is extremely price elastic.
- Therefore the fall in supply of US cars, given the price elastic demand, will result in an **overall fall in producer revenue** as the gain in revenue due to the rise in price (Area A) is smaller than the loss in revenue due to the fall in quantity (Area B), as seen in Figure 2 below.

Figure 2: Market for US cars



[Alternative] Body 2: Impact of above taxes on US car market (assuming $PED_{cars} < 1$ – this alternative views the US car market comprising both cars that are made in USA and overseas)

- Given the fall in supply of steel in the US steel market, \rightarrow \uparrow overall price of steel \rightarrow \uparrow cost of production of cars as steel is an essential factor input.
- \downarrow supply of US cars given this increase in cost of production
- In order to understand the impact on producer revenue, there is a need to consider the PED of cars in the US.
- Cars may be deemed as a necessity in the US given the need to cover large distances and a public transport system that isn't well developed in all parts of the country. Hence, the demand for cars in the US is relatively price inelastic.

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- Therefore the fall in supply of cars, given the price inelastic demand, will result in **an overall gain in producer revenue** as the gain in revenue due to the rise in prices is larger than the loss in revenue due to the fall in quantity (a diagram can be drawn to support this analysis).

Conclusion:

- Producers of US steel will benefit from the import tax while producers of US cars will be adversely affected.
- **[Alternative]** Producers in both the US steel and car markets will see an increase in producer revenue.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that <ul style="list-style-type: none"> • rigorously explains the impact of taxes on foreign steel, with elasticity analysis; and • how it affects producer revenue in both the US steel and US car markets; and • shows good application to both markets in the preamble. 	8 – 10
L2	For an under-developed answer that <ul style="list-style-type: none"> • lacks a rigorous explanation of the impact of taxes on producer revenue; and/or • lacks application- only thoroughly explains for one of the markets. 	5 – 7
L1	For an undeveloped answer that <ul style="list-style-type: none"> • is descriptive, lacking in application of economic theory, and/or • contains serious and pervasive conceptual errors, and/or • is largely irrelevant. 	1 – 4



3 Since 2018, US has imposed 25% taxes on the import of almost all foreign steel.

(b) Discuss the measures, if any, that the US government could adopt to address the rising prices of cars due to the above taxes. [15]

Part (b) Question Interpretation

Command word/ phrase	<i>Discuss... if any</i>	Present different measures applicable to the US government. Show understanding that the government may NOT be required to implement any measures. Provide a valued judgement on the various viable measures.
Content	<i>Measures Address the rising prices of cars</i>	Show understanding of the various measures (e.g. price ceiling, subsidies) available to tackle the rising car prices
Context	US government Due to the above taxes	Show understanding of the impact of the taxes on the US car market and how the US government can address this (if necessary).

Suggested answers:

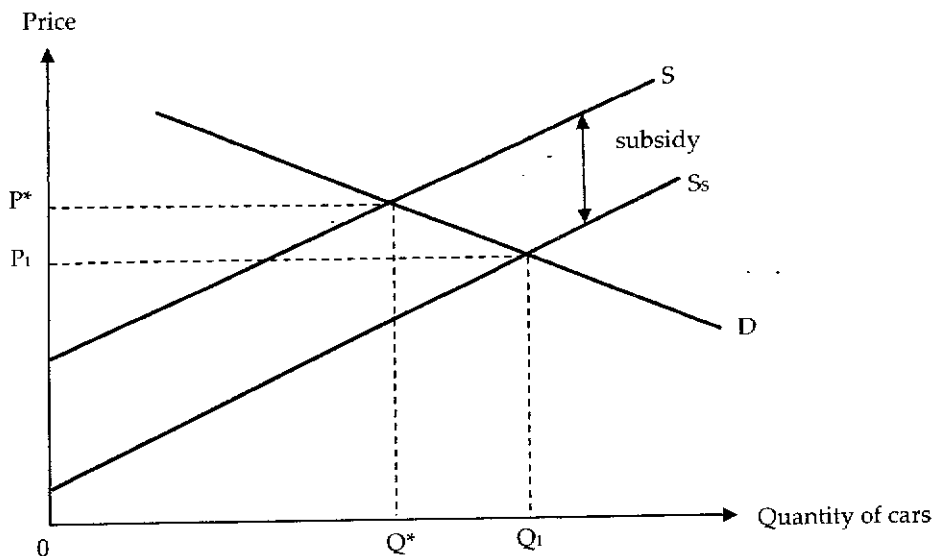
Introduction:

- As seen in part (a), prices in the US car market increases. This may result in the development of an inequitable situation as lower income groups may be priced out of the market and no longer have access to something that is deemed as necessities in the US. As such, there is a need for government intervention in the market.
- That said, there is also a possibility whereby the government does not have to implement any measures as cars may not be deemed as necessities at all!

Body 1a: The US government could implement subsidies for US car producers to reduce the cost of production

- US government could provide subsidies to domestic car producers in order to lower the rising cost of production due to the import taxes.
- As seen in Figure 3 below, this will increase the supply of US cars from S to S_s, hence, addressing the rising car prices as prices will fall from P* to P₁.

Figure 3: Imposition of subsidies to domestic car producers



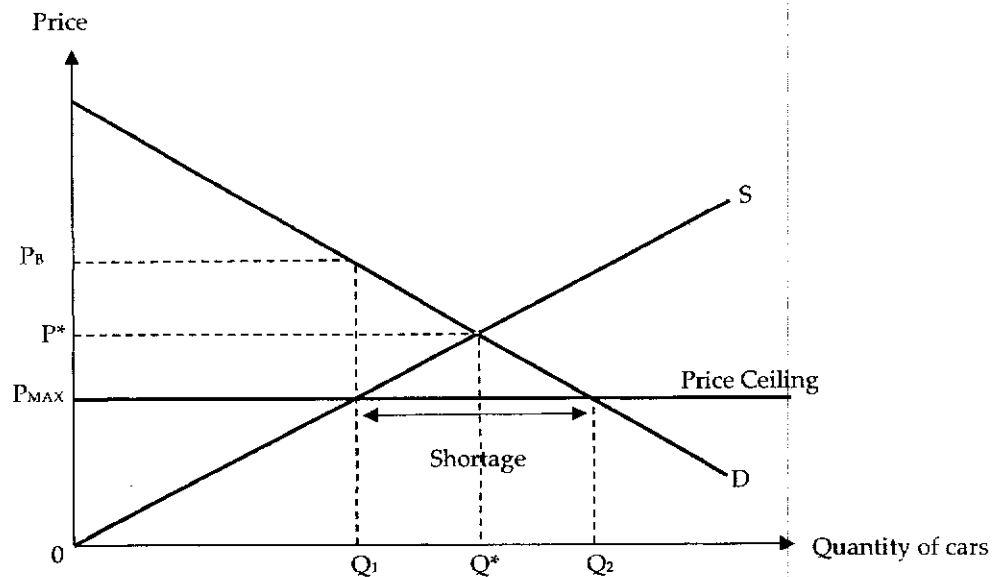
Body 1b: The limitations/unintended consequences of implementing subsidies for US car producers

- However, the extent of impact of subsidies on prices will depend on the price elasticity of demand for US cars. As mentioned in (a), demand for US cars are price elastic due to the availability of close substitutes in the form of foreign cars. Therefore, a large increase in supply is required to reduce prices significantly.
- In order to achieve this, a sizable level of subsidy is required, incurring a significant expenditure from the government. This results in opportunity cost where the US government may choose to spend less on education in order to fund this subsidy.
- Beyond this, it could also incur government debt which further limits the sustainability of this measure.

Body 2a: The US government could also impose a price ceiling in the US car market to reduce car prices directly

- A more direct measure in addressing the rising prices would be to impose a price ceiling in the US car market.
- A price ceiling is defined as the legal maximum price at which a good can be sold. For the price ceiling to be effective, it needs to be set below the market equilibrium price.
- In Figure 4 the free market equilibrium price and quantity is P^* and Q^* respectively. After a price ceiling at P_{MAX} is imposed, the price falls to P_{MAX} and the quantity transacted decreases to Q_1 . A shortage of Q_1Q_2 units is observed as the quantity demanded Q_2 is greater than the quantity supplied Q_1 .

Figure 4: Imposition of a price ceiling in the US car market



Body 2b: The limitations/unintended consequences of imposing a price ceiling in the US car market on US car producers

- While the price ceiling will bring down prices of cars, it will also result in a shortage.
- Consumers who were previously able to purchase cars are now unable to do so due to this shortage and this equity may not have been improved.
- At the maximum price, there are more buyers who are willing and able to pay for the good than there are goods available in the market. Consumers who are unable to obtain the good through legal means due to the fall in quantity transacted may choose to purchase the good through these black markets.
- Hence, if unregulated, producers may choose to ignore the government's price restriction and sell at a higher price illegally to consumers who have a higher willingness and ability to pay for the good. Diagrammatically, this black market price is shown by P_B in Figure 4.
- If producers are indeed illegally charging a higher price, then this clearly limits the price ceiling's ability to keep prices low. As seen in Figure 4, it is possible for the black market price to be even higher than the free market price ($P_B > P^*$).
- If this occurs, the price ceiling actually harms consumers, which is opposite of the intended aim of the policy.
- On top of introducing a price ceiling, high costs of regulation and monitoring also have to be incurred by the government to deter black market activities to ensure that the policy is effective.

Body 3: The US government may also choose not to intervene as cars are not deemed as necessities

- The basis for government intervention is typically to address efficiency or equity concerns in the market. In the case of the US car market, given the fairly developed public transportation networks within each US city and the proliferation of private car hiring companies (e.g. Uber, Lyft), private car ownership is arguably no longer a necessity.
- In this situation, any form of government intervention in the US car market may adversely affect efficiency without an improvement in equity!
- Therefore, even amidst the raising car prices, the US government may choose not to intervene to bring down prices.

Evaluative Conclusion:

- **[Stand]** Given that US car producers are adversely affected by the import taxes, it is possible for the US government to step in with measures to alleviate this situation.
- **[Magnitude]** That said, imposing a price ceiling in the US car market may lead to significant unintended consequences. Instead, it would be more advisable for the US government to implement a more targeted subsidy approach whereby they are able to adjust the level of subsidy required for each US car producer and to tailor the policy specifically to the needs of these producers.
- **[Time frame]** However, the measures implemented by the government should only be imposed in the short term due to the possible unintended consequences it may possess (e.g. government debt from excessive subsidies or retaliation by foreign countries). Instead, these measures should be relaxed as the US public transportation system (including private car hiring companies) continue to develop as a strong substitute to private cars, reducing the impact on equity.
- **[Situation]** However, given the current situation in the US and the large land area that individuals may need to cover in their transit, cars are still deemed as essential for commute and it may take a long time for the public transport to develop as a potential substitute for private vehicles.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that <ul style="list-style-type: none"> • is developed and balanced – rigorously explains the measures available to the US government, and • supports analysis with relevant examples of policy decisions applied to the US car market, and • supports analysis with diagram(s) where appropriate. 	8-10
L2	For an under-developed answer that <ul style="list-style-type: none"> • lacks a rigorous explanation or the various measures available, and/or 	5-7

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	<ul style="list-style-type: none"> • lacks balance – only thoroughly explains how the measures may work to address the rising prices without the limitations/unintended consequences, and/or • lacks scope – answer focuses on applications and limitations of different measures without considering the possibility of the government not needing to intervene 	
L1	For an undeveloped answer that <ul style="list-style-type: none"> • is descriptive, lacking in application of economic theory, and/or • contains serious and pervasive conceptual errors, and/or • is largely irrelevant. 	1-4
Level	Evaluation/Synthesis	Marks
E3	For an answer that uses economic analysis to arrive at a well-reasoned judgement on the different viable measures, providing some form of comparative analysis.	4 – 5
E2	For an answer that makes some attempt at a judgement on the various viable measures. However, there may be some logical flaws in the judgement and/or inaccuracies in the synthesising process.	2 – 3
E1	For largely unsubstantiated judgement(s).	1

- 4 In several developing economies, population growth has caused a rise in labour force that outstrips job opportunities. On the other hand, many developed economies are facing a different set of problems due to falling population levels.

(a) Explain the problems of these population changes to developing and developed economies. [10]

Part (a) Question Interpretation

Command word/ phrase	<i>explain the problems</i>	This is a cause and effect question. The cause is given and you are to explain the effects
Content	<i>these population changes</i> <i>problems... to ... economies.</i>	This is the cause that you are given in the question – you need to pay extra attention to the preamble! These words tell you the effects that need to be explained – you should think about the four macro goals!
Context	<i>developing and developed economies</i>	Note that there are two contextual words in the question – you need to pay attention to the preamble on what exactly each country is experiencing.

Suggested Answer

Introduction – outline the macro issues that you will be exploring

- Developing economies are experiencing a rise in labour force that outstrips job opportunities, which would result in demand-deficient unemployment that would hinder their pursuit of high living standards.
- On the other hand, falling population levels in developed economies is likely to result in labour shortages with inflationary and actual/potential growth consequences that dampen their living standards.

Key Argument 1: The population change to developing economies mentioned in the preamble is likely to cause rising demand-deficient unemployment.

- Population growth helps increase the country's labour force and hence its productive capacity, indicated by a rightward shift of the aggregate supply (AS) curve.

- Job opportunities in a country are generated from demand for labour by the country's producers which is derived from the total demand for goods and services in the country i.e. aggregate demand (AD).
- Developing economies facing a rise in labour force that outstrips job opportunities. Diagrammatically as seen in **Figure 1**, this indicates that the AD is not growing fast enough (indicated by a small increase from AD_1 to AD_2) and AS is increasing to a greater extent (indicated by a large increase from AS_1 to AS_2). This therefore leads to a **rise in demand-deficient unemployment** (from $Y_{f1}-Y_1$ to $Y_{f2}-Y_2$).

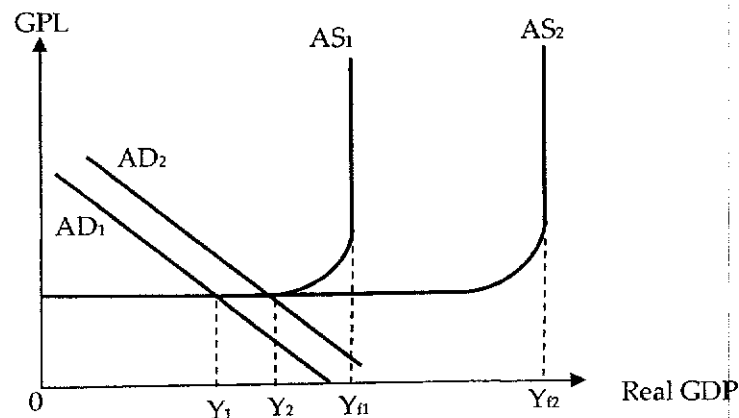


Figure 1: Increase in demand-deficient unemployment in developing economies

Key Argument 2: The population change to developed economies mentioned in the preamble can lead to cost-push inflation, demand-pull inflation and negative actual and potential growth.

Note: There are four effects explained below but any two that are well elaborated would suffice for scope!

- The population changes would lead to a fall in supply of labour. In an open economy like Singapore where the demand of labour is relatively strong due to external demand, this would mean that there would be a shortage of labour that drives up the wage rates in the economy.
 - The rising wages would lead to a rise in costs of production in the economy and this would be shown by a fall in AS (in the form of an upward shift from AS_1 to AS_2). This would result in a rise in price levels from P_1 to P_2 , indicating **cost-push inflation** in **Figure 2**.

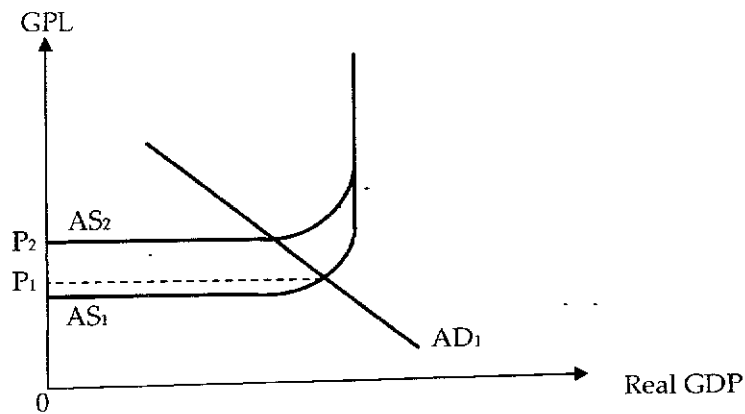


Figure 2: Cost push inflation in developed economies

- Falling population levels means number of entrants to the workforce may not be adequate to replace the ones retiring, leading to a shrinking labour force and productive capacity, and a fall in the full employment level of output. As seen in **Figure 3**, the fall in AS hence there would be **negative potential growth**, indicated by a leftward shift of the AS curve (from AS_1 to AS_2) and a fall in full employment output from Y_{f1} to Y_{f2} .
- As seen in **Figure 3**, if the fall in AS is accompanied by a strong demand in the form of AD_1 , this could lead to **demand pull inflation** as prices increase from P_1 to P_2 due to the leftward shift of the AS.
- In addition, with the fall in productive capacity, there can also be negative **actual growth** as the output levels fall from Y_1 to Y_2 .

Note: students could also explain negative actual growth a fall in AD due to a fall in consumption over time with a fall in number of consumers and ageing population in the economy over time.

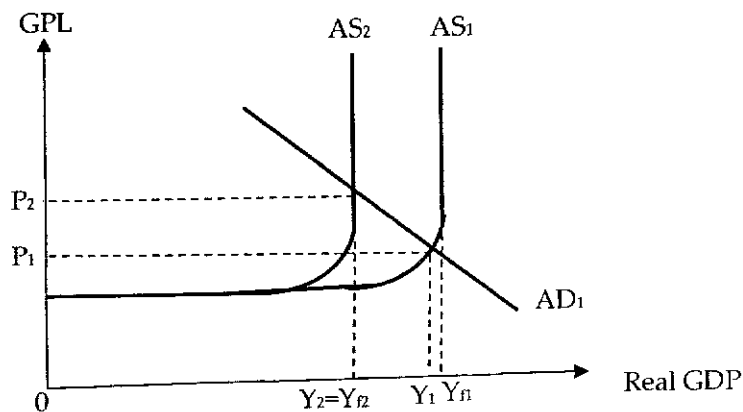


Figure 3: Demand-pull inflation and negative actual and potential growth in developed economies

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Essays Suggested Answers

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	<p>For a well-developed answer that</p> <ul style="list-style-type: none"> • provides a rigorous analysis of how the different population changes affect both developing and developed economies; • with good reference to the macroeconomic goals of a government and with support using relevant diagrams. 	<p>8-10 (9)</p>
L2	<p>For an under-developed answer that</p> <ul style="list-style-type: none"> • lacks scope – either only developing or developed economy was well addressed; and/or • lacks rigour – two economies were addressed but with a lack of use of economics concepts and diagrams; and/or • lacks accuracy – two economies were addressed but with a lack of precision on the macroeconomic goals that were being addressed and/or with a lack of conceptual accuracy. 	<p>5-7 (6)</p>
L1	<p>For an answer that has limited/no application of relevant economic concepts, and/or contains conceptual errors and misinterpretations of the given context</p>	<p>1-4 (3)</p>

- 4 In several developing economies, population growth has caused a rise in labour force that outstrips job opportunities. On the other hand, many developed economies are facing a different set of problems due to falling population levels.

(b) Discuss the policies that can be used to manage the economic problems brought about by the above population changes. [15]

Part (b) Question Interpretation

Command word/ phrase	<i>discuss the policies</i>	This is a policy discussion question. Balance and evaluation will be required and you can consider both limitations and negative unintended consequences for the balance. A scope of 3 policies would suffice.
Content	<i>Manage the economic problems brought about by the above population changes</i>	This is the intended outcome of each policy that you bring up – you will have to refer to your answer in (a) to consider recap the problems that you are trying to manage!
Context	<i>above population changes</i>	Take note that there are two contexts in part (a) – developed and developing – and your policies have to consider both contexts in part (b)!

Suggested Answer

Introduction – brief overview of problems and policies:

- Differing population changes in developing vs developed economies have led to different sets of economic problems faced – demand deficient unemployment in developing economies and a mix of growth and inflationary issues in developed economies.
- To address this, governments could also adopt both demand-side (in the form of fiscal and monetary policies), and supply-side policies.

Policy 1: With high population growth leading to demand-deficient unemployment, governments of developing economies can address the shortage of job opportunities by implementing expansionary demand-side policies, but they are not without limitations.

- Expansionary demand-side policies such as fiscal policy can be enacted by developing economies. This can be in the form of increasing government expenditure, such as the building of roads to connect rural and urban areas. This would increase the 'G' component of AD.
- Alternatively, the government can lower the direct tax rates in the form of income taxes for households and corporate taxes for firms.
 - The fall in income taxes would lead to a rise in disposable income for consumers and lead to an increase in consumption spending increasing the 'C' component of AD.
 - The fall in corporate taxes would lead to a rise in post-tax profits for firms and would lead to a rise in investment spending, increasing the 'I' component of AD.
- The increase in G, C and I would cause an initial increase in income and given that there is likely some spare capacity in developing economies, this would trigger the multiplier effect where there are multiple rounds of increase in income-induced consumption, causing an overall increase in AD from AD_1 to AD_2 , as shown in **Figure 4** below. This would lead to **actual growth**, as indicated by the increase in income levels from Y_1 to Y_2 .
- When output levels increase, this would lead to an increase in the derived demand for labour as more factors of production are required, causing a fall in demand-deficient unemployment from $(Y_f - Y_1)$ to $(Y_f - Y_2)$.

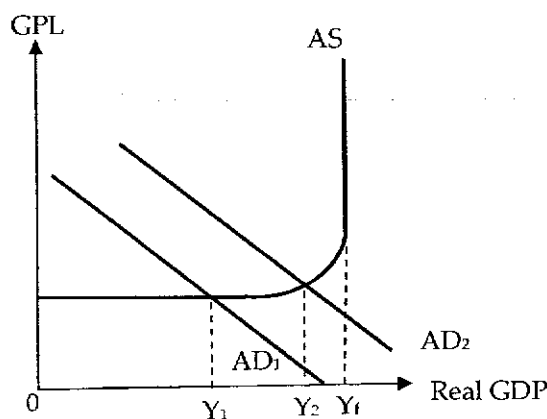


Figure 4: Expansionary Fiscal Policy in developing economies

- **Limitations:** An expansionary fiscal policy could put a strain on the government budget as the increase in G would increase the government's expenditure and the fall in direct taxes would reduce the government's revenue. This could lead to the government taking loans from the banks which would increase interest rates and crowd out investment in the private sectors. The fall in 'I' would lead to a dampening of the rise in AD.

Note: While the above argument is made with fiscal policy, any other expansionary demand-side policy would work as well (e.g. interest-rate or exchange-rate

monetary policy). Also, students will be credited if they use free trade policies for this discussion even though it is declared as a CLT.

Policy 2: Governments of developed economies can address the fall in AS by implementing supply-side policies to increase the quality of labour such as skills retraining, but they are not without limitations.

- In countries such as Singapore, when faced with population challenges, supply-side policies such as Singapore's SkillsFuture initiative can be used to retrain workers to enter sunrise industries. This would increase productivity and improve the quality of the workforce over time. This improvement in quality would increase the productive capacity of the economy (as seen by the rightward shift of the AS from AS_1 to AS_2), and cause **potential growth**, as seen in the increase in full capacity output from Y_{f1} to Y_{f2} in Figure 5 below.
- In addition, the increase in productivity of the workers would translate to increased output per worker and this could result in reduced average costs of production, causing a downward shift of the AS from AS_1 to AS_2 . This could therefore lead to a downward pressure on prices from P_1 to P_2 , **dampening inflationary pressures** and at the same time, **actual growth** can also be achieved with an increase in output from Y_1 to Y_2 in Figure 5 below.

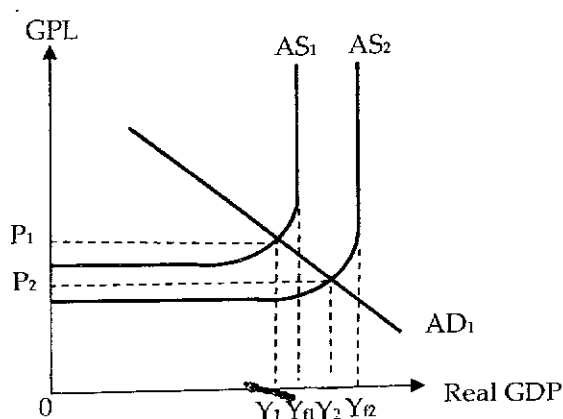


Figure 5: Supply-side policies in developed economies

- **Limitations:** The success of supply-side policies such as skills retraining will depend on the receptivity of workers to undergo retraining programmes and their ability to pick up the new skills quickly. If workers are unable to learn digital skills quickly enough, this might lead to a long time lag for the policy, taking many years before the effects in Figure 5 are seen.

Policy 3: Governments of developed economies can also address the fall in AS by implementing supply-side policies to increase the quantity of labour such as relaxing immigration policies, extending the retirement age of workers and having pro-birth policies but they are not without limitations.

- By relaxing immigration policies, this could directly increase the quantity of labour as companies would be able to hire from overseas to add to their labour force. By extending the retirement age of older workers, this would reduce the number of workers leaving the workforce every year. Pro-birth policies such as Singapore's baby bonuses encourage families to have more children today, which can lead to an increase in the labour force in the longer run.
- Taken together, the above factors would increase the productive capacity of the economy (as seen by the rightward shift of the AS from AS_1 to AS_2), and cause potential growth, as seen in the increase in full capacity output from Y_{f1} to Y_{f2} in Figure 5 above.
- The increase in supply of workers would put some downward pressure on wages, which reduces the cost of production of firms, causing a downward shift of the AS from AS_1 to AS_2 . This could therefore lead to a downward pressure on prices from P_1 to P_2 , dampening inflationary pressures and at the same time, actual growth can also be achieved with an increase in output from Y_1 to Y_2 in Figure 5 below.
- **Negative unintended consequences:** Relaxing immigration policies too much in a small city like Singapore might result in overcrowding issues where congestion on public transport might cause a fall in productivity of workers and higher stress levels in the long run, lowering both material and non-material standard of living. In addition, if foreign workers displaces local workers who are unable to find another job quickly, this could lead to some degree of structural unemployment for the local workforce due to skills mismatches.
 - Extending the retirement age for elderly workers might lead to fewer years of life spent on leisurely activities, which could lower non-material standard of living as well.

Note: The policies raised in part (b) should match the issues that were raised in part (a). If you noted about AD falling for developed economies in part (a), you can bring in demand management policies for developed economies in (b) as well!

Evaluative Conclusion

- **[Stand + Situation]:** As the population issues faced by developed and developing countries differ, the approach taken by both sets of governments should differ to fix the root cause of their problems.
 - With demand-deficient unemployment being the main challenge for developing economies, demand-management policies should be the main focus.
 - For developed economies, the key issues are related to a lack of productive capacity and therefore, supply-side policies should be the main focus.
- **[Alternative + Time Frame]** However, as the various policies have their own sets of limitations a mix policies could be the best solution. For example, the deal with Singapore's labour issue, a short run policy of relaxing immigration policies and increasing retirement age could be enacted alongside longer-run skills retraining policies that take more time for effects to be seen. In the long

run, when the skills retraining policies are bearing fruit, immigration policies and retirement age policies can be reversed to reduce some of the negative unintended consequences mentioned earlier.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that has <ul style="list-style-type: none"> • good scope - three different policies are discussed with at least 1 policy each for developing and developed economies to address the economic consequences of their population changes; and • good balance - limitations and/or negative unintended consequences are analysed for each policy; and • good rigour – AD/AS analysis and real world examples are appropriately used. 	8-10 (9)
L2	For an under-developed answer that <ul style="list-style-type: none"> • lacks scope – only two different policies are discussed for developing and developed economies OR <ul style="list-style-type: none"> ○ three policies are discussed for only EITHER developing OR developing economies; and/or • lacks balance - limitations and/or negative unintended consequences are not consistently analysed for each policy; and/or • lacks rigour – there are accuracy or elaboration gaps in the use of AD/AS analysis and/or real world examples. 	5-7 (6)
L1	For a descriptive answer that mainly stated the different policies that could be adopted to address the economic consequences of the given population change on its economy, with serious conceptual errors	1-4 (3)
Level	Evaluation	Marks
E3	For a well-substantiated evaluative judgement on the policy measures that governments of both developed and developing economies should take to address the economic consequences of the given change in population on their economy.	4 – 5
E3	For an attempt at an evaluative judgement on the policy measures that governments should take to address the economic consequences of their given change in population	2 – 3
E1	For unsubstantiated judgement(s)	1

5 While governments aim to attain the macroeconomic goals as a means to higher standard of living, the policies they adopt to achieve them tend to have varying outcomes.

(a) Explain why the use of interest rate as an expansionary tool might result in varied outcomes for different countries. [10]

Part (a) Question Interpretation

Command word/ phrase	Explain why	Give clear reasons and explain the theory behind the question.
Content	<i>Interest rate... expansionary tool... result in varied outcomes</i>	Explain how expansionary interest rate monetary policy works, and explain 2 factors (e.g. limitations) that may affect the policy's effectiveness.
Context	<i>Different countries</i>	Apply analysis to the characteristics/ situations of different countries.

This question requires candidates to thoroughly explain (i) how expansionary interest rate monetary policy may be used to achieve relevant macroeconomic goals; and (ii) two factors that may affect the extent of the policy's effectiveness, leading to varied outcomes for different countries. The analysis should be well-applied to the context of different countries.

Part (a) Suggested Answer

Introduction

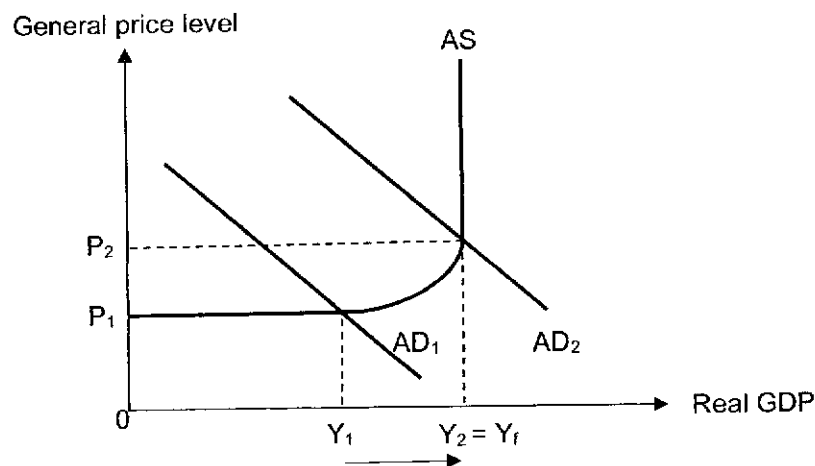
- Interest rate monetary policy can be used as an expansionary tool to achieve actual growth, sustained growth, and full employment.
- This essay aims to explain how the policy works, as well as two factors that may cause the outcomes to vary for different countries.

Development 1: Interest rate monetary policy can be used as an expansionary tool to achieve actual growth and reduce demand-deficient unemployment.

- The central bank can increase the supply of loanable funds to decrease interest rate.
- The decrease in interest rates will lower the cost of borrowing and returns to savings for consumers and firms.
- As households are now more incentivised to borrow to purchase big-ticket items and less incentivised to save, this will increase consumption expenditure (C).
- The decrease in interest rates also increases the expected profitability on investment for firms, raising investment expenditure (I).
- Assuming there is spare capacity, the increase in C and I will trigger the multiplier effect and lead to multiple rounds of increases in income-induced consumption, causing a larger increase in aggregate demand (AD).

- As seen in Figure 1, the increase in AD from AD_1 to AD_2 results in a multiplied increase in real output from Y_1 to Y_f , leading to actual growth. As more output is produced, firms increase derived demand for factors of production, including labour. The initial demand-deficient unemployment represented by $Y_f - Y_1$ is eliminated as the economy reaches full employment.

Figure 1: Effects of expansionary monetary policy



Development 2: However, the outcomes on actual growth and employment may vary for different countries due to differences in economic outlook.

- For countries facing a severe economic recession, households and firms are likely to have a pessimistic outlook of the economy.
- As such, expansionary monetary policy in the form of decreasing interest rates may fail to stimulate borrowing as businessmen may not be confident about future profits, while households may not be confident about earning higher future incomes.
- Consumption and investment expenditure are therefore likely to be interest-insensitive, resulting in a smaller increase in C and I, and hence a smaller extent of actual growth and fall in demand-deficient unemployment.
- On the other hand, for countries facing a mild economic recession, the degree of interest-insensitivity is likely to be low. The policy will have greater effectiveness, leading to a faster rate of actual growth and a greater fall in demand-deficient unemployment.

Development 3: In addition, the outcomes on actual growth and employment may vary for different countries due to differences in the size of multiplier.

- The size of the multiplier is inversely proportional to the marginal propensity to withdraw (MPW), where $MPW = \text{marginal propensity to save (MPS)} + \text{marginal propensity to tax (MPT)} + \text{marginal propensity to import (MPM)}$. A higher MPW implies a smaller multiplier size, while a smaller MPW implies a larger multiplier size.

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- China's multiplier size tends to be small due to her relatively high savings rate (MPS). This can be attributed to the Asian culture of thrift and a lack of a strong social safety net, causing the people to tend to save more to ensure that they have enough for retirement. The large MPS give rise to a large MPW, and correspondingly, a small multiplier size in China.
- In comparison, the US has a relatively lower savings rate. Hence, the MPS and MPW is relatively smaller, resulting in a larger multiplier size.
- For the same level of fall in interest rates, the US is likely to experience a larger increase in AD via the multiplier effect as compared to China, leading to a faster rate of actual growth and a greater fall in demand-deficient unemployment.

(Note: Students should avoid using Singapore as an example of a country with small multiplier size since Singapore does not use interest rate as an expansionary tool.)

Alternative factors that can be accepted as well:

- *Prevailing level of interest rates → liquidity trap*
- *Proportion of C & I as a component of AD*
- *State of economy or level of spare capacity*

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that <ul style="list-style-type: none"> • rigorously explains how expansionary interest rate monetary policy works to achieve relevant macroeconomic goals; and • rigorously explains two factors that may account for the varied outcomes in different countries; and • supports analysis with relevant examples, where applicable. 	8 – 10
L2	For an under-developed answer that <ul style="list-style-type: none"> • lacks a rigorous explanation of the workings of expansionary interest rate monetary policy and factors that account for the varied outcomes in different countries, and/or • lacks scope – did not explain how expansionary interest rate monetary policy works or only explained the workings of the policy + 1 factor that accounts for the varied outcomes in different countries, and/or • lacks question focus – explained factors that may limit the effectiveness of expansionary interest rate monetary policy but did not apply the factor to different countries to show varied outcomes. 	5 – 7
L1	For an undeveloped answer that <ul style="list-style-type: none"> • is descriptive, lacking in application of economic theory, and/or • contains serious and pervasive conceptual errors, and/or • is largely irrelevant. 	1 – 4

- 5 While governments aim to attain the macroeconomic goals as a means to higher standard of living, the policies they adopt to achieve them tend to have varying outcomes.

(b) Assess the view that inclusive growth will always lead to higher living standards. [15]

Part (b) Question Interpretation

Command word/ phrase	<i>Assess the view</i>	To present a balanced discussion of how inclusive growth may and may not lead to higher living standards, before weighing both sides of the arguments to arrive at a substantiated evaluative judgement.
Content	<i>Inclusive growth</i> <i>Living standards</i>	Consider the effects of both sustained growth AND the inclusive aspect (broad-based across economic sectors and creates productive employment opportunities for the majority) Consider impact on both material and non-material SOL
Context	<i>Nil</i>	Support analysis with relevant examples

This question requires a balanced discussion of how inclusive growth may and may not lead to higher material and non-material living standards. The analysis should be supported with relevant examples. This is followed by a well-substantiated evaluative judgement on the view that inclusive growth will always lead to higher living standards.

Part (b) Suggested Answer

Introduction

- The standard of living of an economy can be defined as the well-being of residents in the economy and is typically split into material and non-material standard of living.
- Material standard of living is associated with the amount of goods and services available for consumption by the residents of an economy.
- Non-material standard of living is associated with the intangible aspects of well-being, such as the quality of the environment or the stress levels of workers in the economy.
- This answer aims to examine how inclusive growth may and may not lead to higher living standards, before assessing the view that inclusive growth will always lead to higher living standards.

Thesis 1: Inclusive growth can lead to higher material standard of living.

- 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.

- A sustained rate of economic growth can be defined as a positive and stable growth rate, without significant upward pressure on the general price level, over an extended period of time.
- Achieving sustained growth implies that the economy experiences sustained increases in real income. If the growth in real income exceeds population growth, real income per capita increases. Residents have greater purchasing power and can consume more and better quality goods and services, increasing their material living standards.
- Furthermore, inclusive growth creates productive-employment opportunities for the majority of the country's population. This means that the gains from growth is distributed more evenly across the income groups. It would translate to higher income and higher purchasing power for all income groups, leading to higher material standard of living for majority of the country's residents.

Thesis 2: In addition, inclusive growth can lead to higher non-material standard of living.

- Sustained growth raises a country's non-material standard of living as higher employment rates and incomes could reduce the crime rates, resulting in a safer society.
- Achieving sustained growth may also lead to more tax revenue for the government, allowing them to increase government spending on public schools to increase literacy and on public healthcare facilities that can increase life expectancy rates.
- Furthermore, with inclusive growth, the stress associated with being below or near the poverty line for the lower income groups would be reduced. Social stability is also likely to improve because it reduces the level of unhappiness generated by uneven growth.
- All these will enable inclusive growth to improve non-material living standards.

Anti-thesis 1a: However, inclusive growth may not necessarily lead to higher material living standards because it would depend on the composition of output.

- If the sustained growth is achieved due to higher investment expenditure rather than consumption expenditure, or due to increase in government expenditure on national defence rather than healthcare services, material living standards do not increase significantly. This is because investment expenditure and government expenditure on national defence do not directly contribute to the current material standard of living. Instead, higher consumption expenditure and government expenditure on healthcare directly contribute to current material living standards.

OR

Anti-thesis 1b: However, the pursuit of inclusive growth may reduce the extent of rise in material standard of living due to the negative impact on sustained growth.

- To reduce income inequality, governments may employ a progressive tax structure that taxes the higher-income earners a greater proportion of their income compared to the lower-income households.

- While this may improve inclusivity, it may hurt potential growth and slow down the rate of sustained growth. Progressive direct taxes may create disincentives to work and invest.
- Assuming that working more generates higher incomes, a progressive tax structure may reduce an individual's incentive to work more as this may put him in a higher tax bracket where he has to pay a larger proportion of his increase in income as tax, thereby reducing his returns to work. This reduces the quantity of labour and productive capacity of the economy.
- When an income tax structure becomes excessively progressive, it could drive away highly skilled (and hence highly paid) workers, which might in turn reduce the competitiveness and productivity of the country, and ultimately reduce the potential growth of the economy.
- Similarly, excessively progressive corporate income taxes reduce the returns to investment in both physical and human capital. This creates a disincentive for firms to invest in R&D and training of workers, which in turn has an adverse effect on the overall productivity of the country.
- The negative impact on potential growth will slow down the rate of sustained growth and limit the extent of rise in material living standards. If this is coupled with a fall in non-material living standards, inclusive growth may lead to a lower overall standard of living.

Anti-thesis 2: Inclusive growth may lead to lower non-material living standards.

- To achieve inclusive growth, individuals could be working harder and for longer hours. This could lead to higher stress levels, fall in leisure time and increased fatigue. Over time, the accumulated stress and fatigue could lead to health deterioration, hence worsening non-material living standards.
- In addition, inclusive growth could have been achieved at the expense of the environment, generating negative externalities whose third party costs are not borne by the self-interested producers and consumers.
 - For instance, in many parts of rural China, the phenomenon of 'cancer villages' has emerged, where industrial pollution has caused high rates of cancer in the residents living near the factories.
 - Another example is Singapore, where the higher national income from inclusive growth enables the affordance of more energy-consuming goods such as fossil fuel-powered vehicles and air-conditioners, resulting in air and noise pollution, coupled with congested traffic.
 - These will lead to environmental degradation and health deterioration, worsening non-material living standards.

Evaluative Conclusion

- **[Stand]:** In conclusion, inclusive growth will not always lead to higher living standards. It depends on how the inclusive growth is achieved, as well as the state of the economy.
- **[Situation]:** If inclusive growth is achieved with an equal focus on sustainable growth, the extent of fall in non-material living standards due to negative externalities and health deterioration will be reduced, leading to an overall increase

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in living standards. The government may adopt policies such as carbon taxes or subsidise the development of clean energy to reduce the negative impact on the environment and health.

- **[Situation + Magnitude]:** Whether inclusive growth will lead to higher living standards depends on state of the economy. For developing economies, some degree of foreign direct investment (FDI) is required. The pursuit of a high degree of inclusivity through policies such as a more progressive tax system might drive FDI away and lower material living standards significantly. In contrast, developed economies are relatively less dependent on FDI, and the extent of fall in material living standards will be relatively smaller, allowing living standards to increase overall.

Part (b) Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For an answer that <ul style="list-style-type: none"> • is developed and balanced – rigorously explains how inclusive growth may and may not lead to higher material and non-material living standards, and • supports analysis with relevant examples where appropriate. 	8-10
L2	For an answer that <ul style="list-style-type: none"> • lacks a rigorous explanation, and/or • lacks balance – only thoroughly explains how inclusive growth may <u>or</u> may not lead to higher living standards, and/or • lacks scope – answer focuses only on the sustained growth aspect <u>or</u> inclusive aspect of inclusive growth and/or only considers effects of inclusive growth on material <u>or</u> non-material living standards. 	5-7
L1	For an answer that <ul style="list-style-type: none"> • is descriptive, lacking in application of economic theory, and/or • contains serious and pervasive conceptual errors, and/or • is largely irrelevant. 	1-4
Level	Evaluation/Synthesis	Marks
E3	For an answer that uses economic analysis to arrive at a well-reasoned judgement on the view that inclusive growth will always lead to higher living standards.	4 – 5
E2	For an answer that makes some attempt at a judgement on the view that inclusive growth will always lead to higher living standards. However, there may be some logical flaws in the judgement and/or inaccuracies in the synthesising process.	2 – 3
E1	For largely unsubstantiated judgement(s).	1

- 6 South Korea and Singapore are small and open economies with a balance of trade that is influenced by global events and local policies.

Selected Indicators from South Korea

Indicator	2018	2019
Inflation (annual %)	0.48	-0.92
GDP per capita (constant 2010 US\$)	28,158	28,675
Monthly spending on South Korean pop music (K-pop) worldwide (US\$ per pax)	4.9	9.2

Source: World Bank, Statista, accessed 4 September 2021

- (a) Explain the likely impact of the above changes on the balance of trade for South Korea in 2019. [10]

Question Interpretation

Command word/phrase	<i>Explain the likely impact</i>	To explain the cause-effect relationship and present plausible outcomes.
Content	<i>Above changes on balance of trade</i>	Analyse the effects of <ul style="list-style-type: none"> • Fall in GPL (deflation) • Growth in GDP per capita • higher monthly spending on K-pop on the BOT
Context	<i>South Korea</i>	Focus on the nature of the Korean economy as a small open economy, using the trigger information in table.

Suggested answer

Introduction

- The balance of trade (BOT) records payments for exports and imports of goods and services of the country in a year and can be calculated by taking export expenditure minus import revenue.
- The events in the table will likely have differing impacts on the BOT, with a deflation and higher monthly K-Pop spending causing an improvement in the BOT and the growth in GDP per capita causing a worsening of the BOT.

Body (3 well-explained causes of a balance of trade surplus using the table)

Development 1: South Korea's deflation in 2019 is likely to cause an improvement in its BOT

- Firstly, a fall in a country's inflation rate relative to other countries can increase the price competitiveness of domestically produced goods compared to foreign goods, thus leading to a balance of trade surplus. If the country's inflation rate is lower as compared to the rest of the world, its

exports become relatively cheaper and imports relatively more expensive compared to domestically produced substitutes.

- As seen in the table, there is deflation in South Korea with general price levels dropping by 0.92%. This leads to a rise in quantity demanded for South Korea's exports and a fall in its demand for imports. Assuming that demand for South Korea's exports is price elastic, a fall in South Korea's export prices will lead to more than proportionate increase in quantity demanded, leading to a rise in export earnings. The rise in export revenue together with the fall in import expenditure increases the trade balance, which would result in an improvement in the balance of trade

Development 2: South Korea's rise in national income in 2019 is likely to cause a worsening of its BOT

- Next, as seen in the table, there has been an increase in real GDP per capita in South Korea in 2019 by approximately 2. With an increase in real national income per capita, this would increase the ability of South Koreans to purchase imports from other countries, assuming that imports from other countries are normal goods. With a rise in demand for imports, this will likely cause an increase in import expenditure. Ceteris paribus, this would worsen South Korea's BOT.

Development 3: The shift in preferences for K pop among foreign consumers is likely to cause an improvement in South Korea's BOT

- Finally, as can be seen in the table, there has been almost a twofold increase in the expenditure on K-pop per person worldwide in the short span of a year. This indicates that there is a significant change in tastes and preferences towards South Korean's K-Pop music. As more consumers worldwide stream South-Korean music on streaming services this would lead to a rise in export revenue for South Korea.
- In addition, with K-pop mania going strong, complements such as posters and other music collaterals (e.g. souvenirs with Korean bands) will likely experience a rise in demand, leading to a further increase in South Korean exports.
- The K-pop phenomenon will therefore likely increase the overall export revenue of South Korean and lead to an improvement in South Korea's BOT.

Mark Scheme

Level	Knowledge, Application/Understanding, and Analysis	Marks
3	<ul style="list-style-type: none"> • For a well-developed answer that thoroughly analyses the effects of all three events found in the table • Top marks (9 – 10) should be given to answers that are able to apply theory to the table along with other relevant real world examples. 	8 – 10 (9)

	<ul style="list-style-type: none"> Answers with relevant application, but lacking slightly in rigour can gain a maximum of 8 marks. 	
2	<ul style="list-style-type: none"> For an answer that shows some understanding of the impact of the events found in the table but limited in range of points, or with some conceptual errors but does not affect the overall logic of the argument. Answers in this range could also have some weak application of the data found in the table. 	5 – 7 (6)
1	<ul style="list-style-type: none"> For an answer that is descriptive and superficial, lacking in development. Major conceptual errors that affect the accuracy of the essay. 	1 – 4 (3)

(b) Assess the use of a managed float exchange rate regime to address a balance of trade deficit in a small and open economy like Singapore. [15]

Question interpretation

Command word/phrase	Assess	To examine and present the different aspects of a problem or subject (in this case, policies). Evaluation and judgement needed on whether measures are needed and which ones to adopt.
Content	<i>use of a managed float exchange rate regime</i> <i>to address a balance of trade deficit</i>	Analyse the workings of a managed float exchange regime to correct a deficit in the balance of trade
Context	<i>Small and open economy like Singapore</i>	Support arguments with real-world examples in economies like Singapore

The answer needs to first consider how the managed float exchange rate regime will help address a balance of trade deficit. Next, the answer needs to analyse the limitations and unintended consequences that a government may face when adopting managed float exchange rate policy to reduce a balance of trade deficit and evaluate their appropriateness and effectiveness. As an evaluative conclusion, students should give an overall assessment of the effectiveness or appropriateness of this policy to reduce a BOT deficit, bearing in mind that the measures would be utilised by SOEs.

Suggested answer

Introduction

- A balance of trade deficit can have several adverse impacts on an economy. The larger and more persistent the trade deficit is, the greater and more sustained the fall in real output and employment in the economy, resulting in significant contractionary effect. A large and persistent balance of trade deficit may lead to a significant downward pressure on the country's exchange rate since there is a surplus of the local currency in the foreign exchange market at the prevailing exchange rate. A depreciation of the currency increases the prices of imports in terms of domestic currency and can lead to significant imported inflation.
- In the case of a serious balance of trade deficit, Singapore's central bank may implement managed float exchange rate policy to allow for a currency depreciation. This essay will focus on explaining how this may improve the balance of trade and assess the overall effectiveness.

Thesis: A currency depreciation using the managed float can reduce a balance of trade deficit in Singapore

- The Monetary Authority of Singapore (MAS) may depreciate the local currency to lower prices of exports in terms of foreign currencies and raise the price of imports in terms of domestic currency.
- This can be done by lowering the band in which the exchange rate is allowed to float in. After lowering the managed float band, if the current exchange rate is above the band, the MAS would proceed to increase the supply of currency in the foreign exchange market, depreciating the currency to be back within the lowered band.
- Doing so would reduce the prices of Singapore exports in foreign currencies and increase the prices of imports in Singapore dollar. This increases quantity demanded for exports and lowers quantity demanded for imports (switch to home substitutes). Assuming that Marshall-Lerner condition holds, where the absolute sum of the price elasticities of demand for exports and imports is greater than 1, net export revenue would increase, causing the trade balance to improve.
- For depreciation to be effective in reducing the balance of trade deficit, several other conditions need to be met as well.
 - There must be spare capacity
 - Inflationary pressure must be curbed
 - No retaliation from trading partners
 - No loss of confidence in country

[Note: The Marshall-Lerner condition is essential. For the 4 conditions mentioned above, students are only required to show recognition of some of the factors. It will be efficient if the factors you choose are the ones that will be elaborated on under limitations/unintended consequences]

Antithesis: Explain the limitations or unintended consequences of currency depreciation for a SOE (at least two well developed points from those below)

- **Though depreciation is supposed to improve the trade balance, there is a tendency for the trade balance to worsen initially before improving.** This is known as the J-curve effect which occurs because the Marshall-Lerner condition may not be satisfied in the short run, as demand for imports and exports may be highly price inelastic in the short run. This may be due to contractual agreements which mean that the volume of exports or imports cannot be changed immediately even though prices have changed.
 - Domestic consumers need time to adjust their consumption habits and make the switch from foreign imports to locally produced goods. In addition, for small economies, there might not be ready substitutes for imports in the form of domestic goods.
 - Hence, demand for imports and exports are price inelastic at least in the short run and a depreciation of the currency could lead to a fall in $(X-M)$ and a worsening of the BOT deficit if the Marshall Lerner condition does not hold.

- **Nature of SOE as being import reliant may limit use of managed float ER.** For an economy that is resource-scarce and therefore import-dependent, the marginal propensity to import is high. For an economy that is heavily reliant on imports for raw materials and consumer goods, the demand for imports is likely to be highly price inelastic. This reduces the effectiveness of a currency depreciation, as the rise in import prices would only result in a less than proportionate fall in quantity demanded of imports, causing a rise in import expenditure. This would reduce the extent of improvement in the trade balance contributed by a rise in export revenue, hence making a depreciation policy relatively less effective.
 - Moreover, an economy that is import-dependent is also highly susceptible to significant imported inflation. A currency depreciation increases the price of imported raw materials in terms of domestic currency. If the country's exports have high import content, the increase in price of imported raw materials would negate the initial gains in export competitiveness arising from the depreciation, thus reducing the effectiveness of the policy in improving the trade balance.

- **State of the economy (in particular the growth rate and inflation rate).** For an economy that is experiencing a high growth rate and inflationary pressures, a depreciation of the currency would further stimulate growth and worsen inflation, which could worsen the trade balance.
 - With a fall in the external value of the domestic currency, the rise in quantity demanded for exports and fall in quantity demanded for imports would result in an increase in AD in the economy, assuming the Marshall-Lerner condition holds. If the economy is already producing near full employment, this increase in AD would result in further demand-pull inflation. In addition, a rise in import prices would also lead to imported raw materials and components

- being more expensive in terms of domestic currency, thus resulting in higher costs of production and imported cost-push inflation in the economy.
- The rise in inflation rate arising from greater demand-pull and cost-push inflation would reduce the price competitiveness of the country's exports. Assuming that foreigners' demand for the country's exports is price elastic, this rise in inflation rate would result in a fall in export revenue, thus worsening the balance of trade, and rendering the currency depreciation ineffective in improving it.

Note: other arguments that such as a weak global outlook or the threat of retaliation limiting any increase in export revenue from a depreciation can also be accepted.

Evaluative Conclusion

- **[Stand]:** The use of managed float exchange rate policy would be useful to address balance of trade deficit in a small open economy like Singapore but it needs to be complemented by other policies to increase its effectiveness.
- **[Time Frame]:** The correction of balance of trade deficit using a depreciation of the currency will likely work better as a **short-term measure** as other economies may retaliate with protectionist measures that can negate any beneficial effect. To effectively improve the country's balance of trade in **the long run**, it is necessary to complement the short-term measures of a depreciation with supply-side policies that can boost the productivity of the export industries and increase export competitiveness in the long run.
- **[Situation + Alternative]:** In order to effectively reduce the balance of trade deficit, governments would also need to consider the **root cause** of the deficit. For instance, if the deficit is due to a loss of comparative advantage, the most effective measure is probably the use of supply side policies to develop infant industries which the country potentially has comparative advantage in, so as to boost exports in the future.

Mark Scheme

Level	Knowledge, Application/Understanding, and Analysis	Marks
3	<ul style="list-style-type: none"> • For an answer that uses analysis to underpin the evaluative discussion of the ER policy to correct a balance of trade deficit in a small and open economy • Analysis is balanced and rigorous, and with relevant examples to substantiate the analyses. 	8 – 10
2	<ul style="list-style-type: none"> • For an answer that explains how exchange rate policy might correct a trade deficit, but without any balance / comments on effectiveness, constraints and unintended consequences would be capped at 6 marks. • For answers that lacks accuracy or economic rigour. 	5 – 7
1	<ul style="list-style-type: none"> • For descriptive answers lacking in development, or those that contains gross conceptual errors, revealing a weak knowledge of exchange rate policy. 	1 – 4

TJC 2021 J2 Preliminary Examination H2 Economics
Essays Suggested Answers

Level	Evaluation	Marks
E3	Insightful judgement on effectiveness and/or appropriateness of the given measure based on a good synthesis built around different contexts.	4 – 5
E2	Evaluative assessment based on economic analysis of the measure that might be adopted to overcome a balance of deficit. There are however some logical flaws and inaccuracies in the evaluative comments made.	2 – 3
E1	For an answer that gives an unsupported statement or unexplained assessment on effectiveness/ constraints/ unintended consequences of the measure.	1