



ST ANDREW'S JUNIOR COLLEGE

PRELIMINARY EXAMINATIONS 2022 (JC2)

General Certificate of Education Advanced Level

Higher 1

ECONOMICS

8823/01

29 August 2022

3 hours

READ THESE INSTRUCTIONS FIRST

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

Answer all questions.

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

This document consists of 9 printed pages.

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[Turn Over]

Answer all questions

Question 1: The Markets for Masks and Vaccines

Extract 1: Global Mask and Vaccine Shortage

The Global Mask Shortage

The World Health Organization has warned that severe and mounting disruption to the global supply of masks— caused by panic buying, hoarding and misuse – is putting lives at risk from the new coronavirus and other infectious diseases. Healthcare workers rely on surgical masks and other personal protective equipment to protect themselves and their patients from being infected and infecting others.

Polypropylene non-woven fabric, a key component used to make masks is limited in supply as the small number of producers world-wide find it difficult to expand production during the crisis. The US, Germany and other countries have also restricted exports of some mask-making materials, drawing intense criticism, from developing countries such as African nations where COVID ravages on.

The Global Vaccine Shortage

More than 600 million people worldwide, primarily the United States and European nations, have been at least partially vaccinated against COVID-19 — meaning that more than seven billion still have not. As wealthy countries envision the pandemic retreating within months — while poorer ones face the prospect of years of suffering — frustration has people around the world asking why more vaccine isn't available.

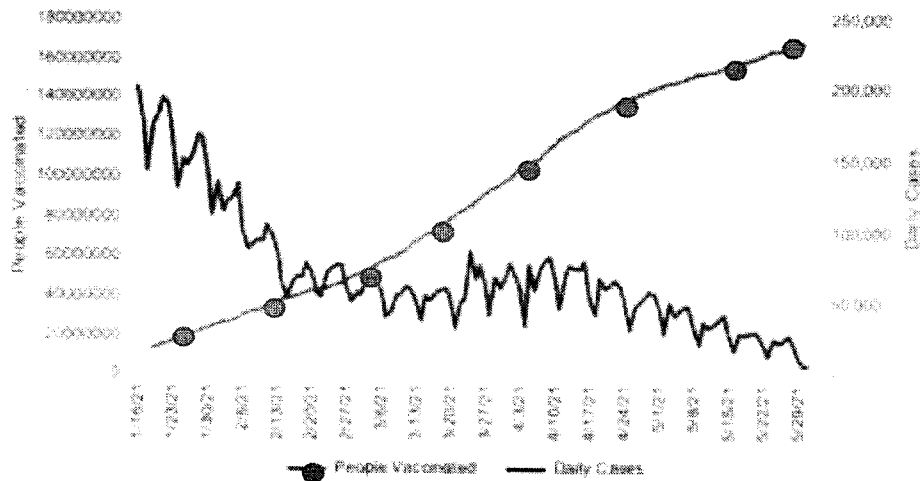
Vaccine making is an exacting process. With a new shot, new production lines and mounting global expectations, it gets harder. Both AstraZeneca and Johnson & Johnson, two of the world's largest pharmaceutical companies, have run into serious production problems with their COVID-19 vaccines — object lessons in the challenges of scaling up in a hurry from nothing to hundreds of millions of doses.

There are only so many factories around the world that make vaccines and only so many people trained in making them — and they were busy before the pandemic. Likewise, production capacity for biological raw materials, cell culture media, specialized filters, pumps, tubing, preservatives, glass vials and rubber stoppers is also limited.

A spike in COVID cases and deaths has led to many countries especially the developed countries intensifying vaccination programmes with massive bulk purchases of vaccines which contributed to the global shortage of vaccines, leaving the poorer nations vulnerable to the pandemic. Experts believe that this global vaccine shortage is likely to persist and have cautioned that the impact of the shortage on global equity is a cause for concern.

Source: Adapted from *World Health Organisation* March 3 2020, *OECD* May 4 2020,
The New York Times May 3 2021

Figure 1: COVID-19 Daily Cases Hospitalised vs People Vaccinated in the United States



Source: www.latentview.com

Extract 2: Vaccination Hesitancy

Prime Minister Lee Hsien Loong announced in a national broadcast on December 14 2020 that Singapore would be receiving the vaccine developed by pharmaceutical company Pfizer and German firm BioNTech. With an eye on more batches of COVID-19 vaccines arriving in the coming months, the Government has taken pains to lower barriers to getting vaccinated and soften the ground. It has made the COVID-19 vaccine free and voluntary. It also targets to bring in enough to cover all Singaporeans and long-term residents deemed to be medically eligible for vaccination by the end of the year. It hopes that given the huge social benefits of vaccinations, safety management measures ranging from mandatory mask wearing, restrictions on social gatherings and quarantine or isolation order can be gradually eased.

However, vaccines achieve larger public policy goals in curbing disease progression and transmission only when a substantial proportion of the population has been vaccinated. Aside from logistics, public attitudes toward the vaccine may present a host of challenges.

Experts have long studied factors leading to vaccine hesitancy, when an individual decides to delay or reject vaccination despite availability. In 2019, the World Health Organization identified vaccine hesitancy as one of the top 10 global health threats. This threat has been given fresh urgency as anti-vaxxers around the world scuttled national healthcare efforts to keep their populations healthy. A wave of anti-vaccination sentiment swept across many countries including Singapore due to a rise in online misinformation about the COVID-19 vaccines. Some claimed that the COVID-19 vaccine causes infertility or alters a person's DNA. The adverse effects of vaccine misinformation are far-reaching in sowing distrust in science and public institutions. Battling the constant onslaught of COVID-19 vaccine misinformation also has the unintended consequence of diverting governments and public health agencies' attention and resources in coordinating nationwide vaccination programs effectively. To be certain, getting vaccinated is an outcome of a complex individual decision-making process. Those reluctant often lack confidence in the effectiveness and safety of the vaccine and do not see a need for or value of getting the vaccine. They are even more reluctant when the vaccination centres are too far away or when they have to wait in the long queues.

This reluctance towards vaccination might stem from both not having enough information about the vaccine and from being exposed to wrong information.

Source: Adapted from *Channel News Asia* 12 Jan 2021

Extract 3: Measures to cope with single-use mask shortage and its effects due to demand surge

Hoarding and panic buying of masks by mainly richer countries have led to unnecessary use of disposable masks where more and more single-use masks are worn and discarded, thus further ramping up demand for masks.

Successful awareness campaigns to manage COVID-19 have also caused a dramatic surge in those now willing to don single-use masks in developing countries. These developments would further worsen global shortage of single-use masks and its effects unless urgent measures are implemented.

Price control

Some countries such as South Korea and Taiwan have decided on imposing a price control on private sales of masks to ensure affordability of single-use masks.

Subsidy & grants

Countries such as the US considered the use of subsidy and grants to encourage single-use mask manufacturers to expand production.

While urgent action by governments is required to achieve sufficient masks for the world population at affordable prices, there is also a worry that some of these actions may not necessarily lead to a better outcome than market forces.

Source: Adapted from *Channel News Asia* 13 Nov 2021, *Harvard Business Review* 6 May 2021,
The Conversation 24 April 2020

Questions

- (a) With reference to Extract 1, explain either one demand factor or one supply factor that has contributed to the global mask shortage. **[2]**
- (b) With reference to Extract 1:
- (i) Using the concept of price elasticity of supply, explain why the global vaccine shortage is likely to persist. **[3]**
- (ii) Explain the possible impact of the global vaccine shortage on the global price of vaccines. **[2]**
- (iii) Explain how this change in global vaccine price identified in (ii) could affect the expenditure on vaccines by developed and developing countries differently and comment on the impact of this difference on global equity. **[6]**
- (c) With reference to Figure 1 and with the use of a production possibility curve, explain how the increase in the number of people vaccinated can impact potential economic growth in a country. **[4]**
- (d) With reference to Extract 2:
- (i) Explain the possible factors an individual considers when making a rational decision about consuming vaccination and comment on whether an individual can make a rational decision regarding his or her consumption of vaccination. **[6]**
- (ii) “This reluctance towards vaccination might stem from both not having enough information about the vaccine and from being exposed to wrong information.” **[10]**
- Discuss whether free and voluntary vaccination is the best way to improve society’s welfare in a country where vaccination hesitancy is present.
- (e) In light of a possible trade-off between efficiency and equity, discuss whether imposing a price control or allowing market forces to respond to a surge in demand would result in a more desirable allocation of single-use masks in a country. **[12]**

[Total: 45 marks]

Question 2: Putting Migration into Perspective

Extract 4: International Pursuit of Happiness

Migration is the movement of people, especially workers, between countries. In 2019, 270 million people in the world were migrants—defined as people not living in their country of birth. The migrant population has increased by 120 million since 1990. However, the share of migrants in the world's population has hovered around 3 percent over the past 60 years. A significant part of international migration takes place over long distances and, in particular, from emerging markets and developing economies toward advanced economies.

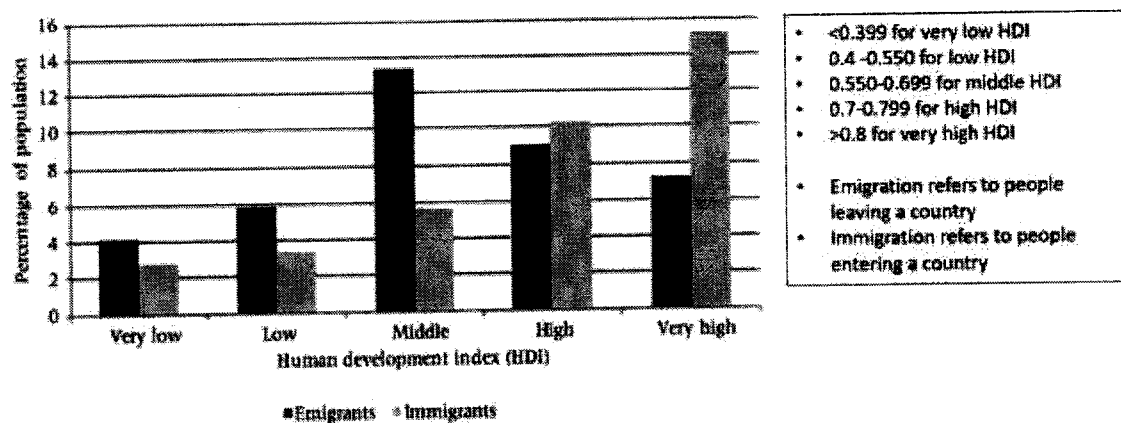
Migration has enormous potential to improve the lives of migrants themselves, natives in receiving countries, and those whom migrants leave behind. However, theories of migration rely to a significant extent on assumptions about the relationship between standard of living and material wellbeing.

For example, the Push-pull models of migration describe both those factors which would tend to increase the magnitude of welfare gains from migrating and factors constraining the ability of people to access those gains. Richer countries attract more immigrants. However, migrating to another country is very costly. Countries with much lower incomes have lower emigration toward advanced economies. This suggests that people get trapped in poverty since they are deprived of the resources needed to overcome migration costs. The costs of migration also include geographical and linguistic barriers which together explain a large share of the migration trend.

Measures of income like real GDP per capita are imperfect indicators of welfare. Over the past few decades, economists have offered alternative ways to investigate human welfare. One approach has been to devise and use more inclusive and less materialistic indices to supplement the old standard of real GDP per capita like the Human Development Index (HDI). However, the correlation between HDI and real GDP per capita is 0.95, indicating a strong relationship. With HDI and real GDP per capita so similar, switching to HDI would not seem to change any conclusions.

Source: *IMFBlog*, 19 June 2020

Figure 2: Association between HDI and migration patterns of countries



Source: *Population & Development Rev*, Volume: 45, Issue: 4, 08 October 2019

Extract 5: Migration to Advanced Economies can Raise Growth

Productivity is the most important determinant of economic growth, and in turn, of living standards more generally. As Paul Krugman—Nobel Laureate in economics—once put it, “Productivity isn’t everything, but, in the long run, it is almost everything.”

A new study published in the April 2020 World Economic Outlook looks at the effect of overall immigration (which is mostly driven by economic reasons) into advanced economies. The study finds that immigrants in advanced economies increase both the level of production and the level of productivity of the country. Specifically, it shows that a 1 percentage point increase in the inflow of immigrants relative to total employment, increases a country’s level of production by almost 1 percent by the fifth year.

That’s because native and immigrant workers bring to the labour market a diverse set of skills, which complement each other and increase productivity as well as innovation. OECD simulations additionally indicate that even modest productivity increases from immigration benefits the average income of natives. While we often think of international migrants as primarily a source of labour, they are more than just workers. They also play diverse roles such as investors and consumers and tax-payers.

While migration brings big gains to recipient countries and provides an opportunity for a better life to migrants, it may also create distributional challenges in local labour markets. Migration can potentially depress wages in the short run and displace some native workers who compete with them. They can also impose short-term fiscal costs and, in some cases, increase the crime rate.

Nonetheless, active labour market and immigration policies geared toward integrating immigrants, such as language training and easier validation of professional titles, can help build even better outcomes from immigration in recipient countries. Integrating migrants into the labour market is key to achieving their full productive contribution, limiting their potential burden on public finances, and reducing their potential impact on crime rates.

Source: *World Economic Outlook*, April 2020

Extract 6: Singapore Budget 2020: boost jobs, reduce reliance on foreign workers

The foreign worker quota for S Pass workers in the construction, marine shipyard and process sectors will be cut. S Pass workers, which are a subset of the foreign workforce, refer to mid-skilled foreigners earning at least \$2,400 a month.

Finance Minister Heng Swee Keat said: “These are skilled jobs, many of which can be done by locals, such as polytechnic diploma holders.

“We created the S Pass category because despite our best efforts, we are not producing enough of such skilled locals. S Passes enable enterprises to top up their workforce with more skilled workers, and to recruit workers with particular skills that locals may lack. “But S Passes should not be a means by which enterprises hire low-cost foreign workers when qualified locals are available.”

Mr Heng noted that the number of S Pass holders in the construction, manufacturing, marine shipyard, and process sectors has been growing by 3.8 per cent a year over the past two years. This number could also increase significantly over the next few years as the construction and marine shipyard industries recover and the process sector begins work on projects in the pipeline.

"The growth in S Pass holders must be sustainable. The Government has been working closely with industry and educational institutions to build up a pipeline of local manpower, including mid-career workers. We want them to have fair opportunities to grow, while supporting the manpower needs of enterprises," Mr Heng said.

The announcement of the cuts is made a year in advance to give the sectors time to adjust. The manufacturing sector will not face these cuts now due to economic uncertainties. "But we do want manufacturing companies to make the effort to recruit local skilled workers and technicians too."

Companies that need help finding local graduates or even older workers finding new careers can work with SkillsFuture Singapore and Workforce Singapore. Enterprises with specific needs can also continue to apply for additional manpower flexibilities through initiatives such as the Lean Enterprise Development Scheme. Last year, the foreign worker quota was cut for the services sector.

Source: *The Straits Times*, 18 February 2020

Extract 7: Singapore residents' views on environment, work and migration

A majority of Singapore residents feel that protecting the environment and ensuring that no one is left behind should be prioritised, even if this results in slower economic growth, a study by the Institute of Policy Studies (IPS) showed.

Those in Singapore who were younger, more educated and earned higher incomes were more likely to agree that protecting the environment should be given priority. "It is likely that (the lower-income) were more concerned about their own livelihoods and therefore, chose to protect jobs and the economy," said the research team.

In addition, more Singapore residents - compared with 2002 and 2012 - say that the Government should ensure that all are provided for, instead of taking the view that the onus should be on people to provide for themselves.

"Singaporeans want competition and meritocracy, but at the same time, they are also expecting a more compassionate way to address our socio-economic needs," IPS research associate Melvin Tay said at a media briefing on Wednesday. This shift could likely be due to greater awareness, especially in the last two to three years, of groups in the bottom 20 per cent of the income spectrum who are struggling financially, added Dr Mathews, head of the IPS Social Lab.

On immigration, about 82.3 per cent of Singapore-born respondents said the government should give priority to citizens over immigrants when jobs are scarce. In comparison, 69.5 per cent agreed with the statement in 2012. A majority of naturalised citizens and permanent residents in Singapore - 66.2 per cent - also agreed with this view.

Groups that were most likely to strongly agree with the statement were the unemployed, followed by the self-employed. "One possible reason for this trend could be these 'sandwiched' groups are among the most likely to face competition for jobs from foreigners or immigrants in Singapore's labour context," said the researchers. These groups usually compete for jobs that are also sought by immigrants with S Passes, which allow mid-level skilled staff to work in the Republic.

Source: *The Straits Times*, 4 February 2021

Questions

- (a) (i) State the factors that are included in the Human Development Index (HDI) measure. [3]
- (ii) With reference to Extract 4, explain how the HDI is a better measure of standard of living than the use of real GDP per capita and comment on whether this is always the case. [6]
- (iii) With reference to Figure 2 and Extract 4, explain the relationship between HDI and emigration level. [4]
- (b) With reference to Extract 5:
- (i) Distinguish between the level of productivity and the level of production of a country. [2]
- (ii) Explain why productivity might be higher in an advanced economy than in a developing economy and comment on whether this trend may change over time. [6]
- (iii) Explain how migration can impose fiscal costs. [2]
- (c) The main policy instruments available for any government to meet its macroeconomic objectives are fiscal policy, monetary policy and supply-side policy. [10]
- Discuss whether the cut in foreign manpower growth is the best policy to improve the employment opportunities for Singaporeans.
- (d) "A majority of Singapore residents feel that protecting the environment and ensuring that no one is left behind should be prioritised, even if this results in slower economic growth." (Extract 7) [12]

Discuss the extent to which you agree with this view.

[Total: 45 marks]

~End of Paper~



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Higher 1

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29 August 2022

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Suggested Answers

Question 1: The Markets for Masks and Vaccines

Questions

(a)	With reference to Extract 1, explain either one demand factor or one supply factor that has contributed to the global mask shortage.	[2]
	<p>Demand factor: [2] Rise in taste and preference for masks e.g panic buying and hoarding which led to rapid rise in demand. [1]At the original price, quantity demanded exceeded quantity supplied, resulting in shortage.[1]</p> <p>OR</p> <p>Supply factor: [2] Restriction in exports or limited supply of essential raw materials push up the price of these essential raw materials, leading to a rise in costs of production which led to fall in supply [1]. At the original price, quantity demanded exceeded quantity supplied, resulting in shortage [1].</p>	
(b)	With reference to Extract 1:	
(i)	Using the concept of price elasticity of supply, explain why the global vaccine shortage is likely to persist.	[3]
	<p>PES for vaccines is likely to be less than one as there is limited capacity in terms of facilities, ingredients and skilled labour. [1]</p> <p>Rise in price of vaccine results in less than proportionate rise in quantity supplied of vaccine ceteris paribus. [1]</p> <p>Thus, shortage is likely to persistent as it takes longer time for price adjustment process to clear the shortage. [1]</p>	
(ii)	Explain the possible impact of the global vaccine shortage on the global price of vaccines.	[2]
	Global vaccine shortage at original equilibrium price will exert upward pressure [1] on price of vaccines leading to rise in price [1].	
(iii)	Explain how this change in global vaccine price identified in (ii) could affect the expenditure on vaccines by developed and developing countries differently and comment on the impact of this difference on global equity.	[6]
	<p>Explain: [4m] Developed countries: [2] PED <1 as low proportion of income is spent on vaccines. Rise in price results in less than proportionate fall in quantity demanded of vaccines leading to rise in expenditure on vaccines.</p> <p>Developing countries: [2] PED >1 as high proportion of income is spent on vaccines.</p>	

	<p>Rise in price results in more than proportionate fall in quantity demanded of vaccines leading to fall in expenditure on vaccines.</p> <p>Comment: [2m] Rise in price of vaccines will make vaccines which are essential less affordable and accessible to poorer developing nations compared to richer developed nations leading to less people being vaccinated in poorer developing countries. This worsens global equity.</p>	
(c)	<p>With reference to Figure 1 and with the use of a production possibility curve, explain how the increase in the number of people vaccinated can impact potential economic growth in a country.</p>	[4]
	<p>COVID 19 daily cases hospitalised fell while the number of people vaccinated in the United States rose from 16th January 2021 to 29th May 2021.</p> <p>There would be contraction in the potential economic growth of a country due to a fall in labour productivity and deaths when the number of Covid 19 daily cases were high. However, the reduction in hospital cases given the increase in the number of people vaccinated suggests an improvement in health. This means a possible rise in labour quality through increase productivity. This leads to a positive impact on potential economic growth of a country.</p> <p>Diagram: parallel outward shift</p> <p><u>OR</u></p> <p>COVID 19 daily cases hospitalised fell while the number of people vaccinated in the United States rose from 16th January 2021 to 29th May 2021.</p> <p>There would be contraction in the potential economic growth of a country due to a fall in labour productivity and deaths when the number of Covid 19 daily cases were high. However, with the increase in the number of people vaccinated, there will be less deaths and an improvement in labour productivity. This can prevent any further fall in potential growth since quantity and quality of workers will not fall too excessively.</p> <p>Hence the fall in potential economic growth can be mitigated.</p> <p>Diagram: parallel outward shift</p>	
(d)	With reference to Extract 2:	
(i)	<p>Explain the possible factors an individual considers when making a rational decision about consuming vaccination and comment on whether an individual can make a rational decision regarding his or her consumption of vaccination.</p>	[6]
	<p>Explain the factors (Any 2 factors- 4m)</p> <p>Introduction In making a decision, it is important for the individual to consider the possible costs involved in the decision, the possible benefits involved in the decision as well as other considerations such as constraints</p>	

	<p>involved, information required and also possible unintended consequences.</p> <p>Body <u>Possible Benefits:</u> Better immunity and stronger protection from COVID 19 virus. Reduce the likelihood of restrictions such quarantine orders or isolation and thus more able to continue with work and earn higher income due to greater productivity</p> <p><u>Possible costs:</u> Cost of travel to vaccination centres Medical cost of side effects to vaccinations Loss of income due to medical leave after vaccination</p> <p><u>Constraints:</u> Time constraint as vaccination may take long waiting hours if individual has busy work hours Budget constraint if there is high medical cost incurred due to more severe side effects of vaccination</p> <p><u>Information:</u> Potential benefits and costs of vaccination spread through online media sources Information on availability of vaccines and vaccination centres</p> <p><u>Unintended consequences:</u> Vaccination may make individuals to feel more secure and thus may not take safety measures such as mask wearing and keeping safe distance from others seriously which can increase risk of becoming infected with virus as well as transmitting the disease to others for example family members incurring potentially higher healthcare costs.</p> <p>Comment: [2] It is not possible to make a rational decision due to misinformation. This leads to Marginal Private Benefit perceived to be lower than Marginal Private Benefit true. Thus, individuals might not be able to make a rational decision as they perceive marginal private benefits to be less than marginal private costs and thus may choose not to consume vaccines.</p>							
(ii)	<p>“This reluctance towards vaccination might stem from both not having enough information about the vaccine and from being exposed to wrong information.”</p> <p>Discuss whether free and voluntary vaccination is the best way to improve society’s welfare in a country where vaccination hesitancy is present.</p>	[10]						
	<p>Question Analysis</p> <table border="1" data-bbox="386 1794 1077 1935"> <tr> <td>Command</td> <td>Discuss whether</td> </tr> <tr> <td>Content</td> <td>Free and voluntary vaccination</td> </tr> <tr> <td>Context</td> <td>Market failure in the market for vaccination</td> </tr> </table>	Command	Discuss whether	Content	Free and voluntary vaccination	Context	Market failure in the market for vaccination	
Command	Discuss whether							
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	<p><u>Schematic Plan</u></p> <table border="1" data-bbox="392 282 1264 517"> <tr> <td colspan="2" data-bbox="392 282 1264 367">Market failure arising from information failure and positive externalities in consumption</td> </tr> <tr> <td data-bbox="392 367 826 517">Side 1: Free and voluntary vaccination may be the best way to address vaccination hesitancy</td> <td data-bbox="826 367 1264 517">Side 2: Free and voluntary vaccination may not be the best way to address vaccination hesitancy</td> </tr> </table> <p data-bbox="392 517 1264 607" style="text-align: center;">Conclusion (Make a stand)</p>	Market failure arising from information failure and positive externalities in consumption		Side 1: Free and voluntary vaccination may be the best way to address vaccination hesitancy	Side 2: Free and voluntary vaccination may not be the best way to address vaccination hesitancy	
Market failure arising from information failure and positive externalities in consumption						
Side 1: Free and voluntary vaccination may be the best way to address vaccination hesitancy	Side 2: Free and voluntary vaccination may not be the best way to address vaccination hesitancy					
	<p><u>Introduction</u> Due to the allocative inefficient outcome in the consumption of vaccination, the government may need to intervene in the market for Covid 19 vaccine to improve resource allocation and societal welfare in order to achieve its microeconomic objective of allocative efficiency.</p> <p>Explain market failure in the vaccine market related to vaccination hesitancy</p> <p><u>Information Failure:</u> Consumers do not realise the true benefits of vaccine providing strong protection from virus and thus underestimate their MPB such that $MPB_{perceived}$ is less than MPB_{true}. Consumers consume at lower output level where $MPB_{perceived} = MPC$ instead of socially optimal level where $MPB_{true} = MSB = MSC$. This gives rise to deadweight loss and allocative inefficiency.</p> <p>Thesis: Free and voluntary vaccination may be the best way to address vaccination hesitancy.</p> <p><u>Free vaccination may be the best way to address vaccination hesitancy</u> Free vaccination reduces MPC of vaccination to zero and thus $MPB = MPC$ occurs at higher output level closer to socially optimal level, thus reducing deadweight loss and allocative inefficiency.</p> <p>Free vaccination implemented by the government may also result in better quality of vaccination services since the government is able to closely monitor the service standards which helps to improve public perception of the safety and effectiveness of vaccine, thus reducing vaccination hesitancy. This helps to increase consumption of vaccination closer to socially optimal level and reduce allocative inefficiency.</p> <p><u>Voluntary vaccination may be the best way to address vaccination hesitancy</u></p> <p>Since vaccines are administered directly into the body, there could be scepticism about vaccination and a significant proportion of the population may not be prepared or hesitant in getting vaccinated.</p> <p>Voluntary vaccination by providing individuals freedom to consider benefits and costs before making decision with regards to vaccination reduces opposition and protest against vaccination programme, thereby</p>					

reducing the extent of potential spread of misinformation. This may help to reduce the amount of government spending on measures to stem protests and/or spread of misinformation.

Anti-thesis: Free and voluntary vaccination may not be the best way to address vaccination hesitancy.

Limitations of free vaccination:

Government provision requires financing which will again take a toll on the government budget and divert government resources away from other projects such as infrastructure development or educational programmes. This may affect the economic progress and future standard of living of the country.

In addition, while public provision will enable the government to directly provide the optimal amount of the good, it may also result in inefficiency as the government may be subject to government failures as well. This happens when the government, in its bid to intervene and correct the situation in the markets, ends up making the situation worse by creating greater inefficiency. For example hoarding and panic buying of vaccines by the richer countries led to wastage of vaccines thus worsening inefficiency.

Limitations of voluntary vaccination:

Since the vaccination is voluntary, consumers may not choose to take up vaccination even when provided free if they are not fully aware of benefits of vaccination or are adversely affected by misinformation about vaccine potential ill-effects.

Other policies may be better to address vaccination hesitancy:

Public education

Public education campaigns to provide sufficient and accurate information about the vaccines as well as correcting the misinformation given out by anti-vaxxers helps to increase information flow and increases MPBperceived to MPBtrue. This helps to reduce vaccination hesitancy and increase consumption to socially optimal level thus eliminating deadweight loss and achieving allocative efficiency.

Limitations:

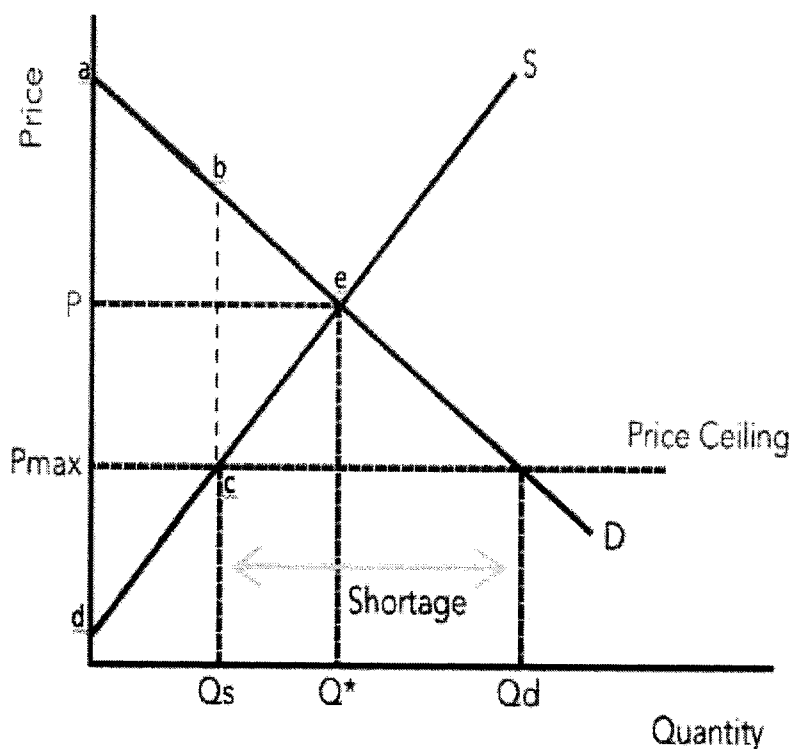
Powerful and constant onslaught of vaccine misinformation is far-reaching and require high level of funding for public education campaigns which could divert resources away from co-ordinating national vaccination programmes effectively. This means that overall consumption of vaccine cannot be increased to desired level to protect the populations from the virus if too much of government funding were used to implement public education campaigns.

Legislation/Regulation

Governments can implement laws and regulate the sharing of inaccurate information about vaccine online in order to reduce the amount and reach

		<p>of vaccine misinformation. This also helps to reduce the efforts required for public education campaigns as it is easier to convince individuals of benefits of vaccines if they are less exposed to vaccine misinformation. Governments can make vaccination compulsory in order to increase level of consumption of vaccine and put in deterrents such as fines to enforce compliance.</p> <p>With such measures, consumption of vaccine is likely to increase closer to socially optimal level, reducing deadweight loss and allocative inefficiency.</p> <p>Limitations: Legislation and regulations entail high administration costs to ensure compliance by consumers. Manpower is needed to be employed to conduct checks online on vaccine misinformation and check compliance on compulsory vaccination. To strike a balance between being overly-restrictive and being lax in their enforcement requires substantial amount of research and deliberation by government officials.</p> <p>Evaluation & Conclusion: Whether free and voluntary vaccinations is the best way depends on :</p> <ul style="list-style-type: none"> • The main root cause of market failure If the main root cause of market failure as suggested by extract is due to information failure as consumers are not aware of benefits of vaccine and are also targeted by misinformation, then public education is likely to be better than free and voluntary vaccination • The extent of market failure Given the rise of COVID-19 cases and death rates, there is evidence of severe market failure as well as data that shows that vaccination is effective in reducing virus transmission. While public education is appropriate, it may take too long to be effective as it takes time to change mind-set to be receptive to vaccination, thus it might be better to implement free and compulsory vaccination to ensure consumption rises to socially optimal level and achieve allocative efficiency especially in countries where there is a high degree of vaccination hesitancy. 						
		<table border="1"> <thead> <tr> <th data-bbox="368 1585 507 1682">Level</th> <th data-bbox="507 1585 1219 1682">Knowledge, Understanding, Analysis, Application</th> <th data-bbox="1219 1585 1361 1682">Marks</th> </tr> </thead> <tbody> <tr> <td data-bbox="368 1682 507 1975">L3</td> <td data-bbox="507 1682 1219 1975"> For a well-developed balanced answer that is contextualised well. There should be well-explained economic analysis to demonstrate how free and voluntary vaccination may or may not address vaccination hesitancy. Marking Tip: For well-explained answers that considered both positive externalities in consumption and information failure award 7 marks </td> <td data-bbox="1219 1682 1361 1975">5-7</td> </tr> </tbody> </table>	Level	Knowledge, Understanding, Analysis, Application	Marks	L3	For a well-developed balanced answer that is contextualised well. There should be well-explained economic analysis to demonstrate how free and voluntary vaccination may or may not address vaccination hesitancy. Marking Tip: For well-explained answers that considered both positive externalities in consumption and information failure award 7 marks	5-7
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L3	For a well-developed balanced answer that is contextualised well. There should be well-explained economic analysis to demonstrate how free and voluntary vaccination may or may not address vaccination hesitancy. Marking Tip: For well-explained answers that considered both positive externalities in consumption and information failure award 7 marks	5-7						

		For well-explained answers that considered only positive externalities in consumption award up to 6 marks													
	L2	For an under-developed balanced answer that may contain some minor errors or is largely not contextualised. The answer may not make good use of economic analysis/terms and is largely descriptive.	3-4												
	L1	For an unbalanced answer that is fraught with conceptual errors.	1-2												
	E2	For a substantiated judgement.	2-3												
	E1	For an unsubstantiated judgement.	1												
(e)	In light of a possible trade-off between efficiency and equity, discuss whether imposing a price control or allowing market forces to respond to a surge in demand would result in a more desirable allocation of single-use masks in a country.		[12]												
<p>Question Analysis</p> <table border="1"> <tr> <td>Command</td> <td>Discuss whether</td> </tr> <tr> <td>Content</td> <td>Imposing price control or allowing market forces to respond to surge in demand</td> </tr> <tr> <td>Context</td> <td>More desirable allocation of mask</td> </tr> </table> <p>Schematic Plan</p> <table border="1"> <tr> <td colspan="2">Price control is implemented to improve equity but there may be a trade-off with efficiency.</td> </tr> <tr> <td>Side 1: Imposing price control would result in more desirable allocation of mask</td> <td>Side 2: Allowing market forces to respond to surge in demand would result in more desirable allocation of mask</td> </tr> <tr> <td colspan="2">Conclusion (Make a stand)</td> </tr> </table>				Command	Discuss whether	Content	Imposing price control or allowing market forces to respond to surge in demand	Context	More desirable allocation of mask	Price control is implemented to improve equity but there may be a trade-off with efficiency.		Side 1: Imposing price control would result in more desirable allocation of mask	Side 2: Allowing market forces to respond to surge in demand would result in more desirable allocation of mask	Conclusion (Make a stand)	
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<p>Introduction</p> <p>To achieve greater equity, the government can intervene by imposing price controls in the market for mask to ensure they are affordable, but this can result in a trade-off between equity and efficiency.</p> <p>Body</p> <p>Explain how price controls (price ceiling) work to achieve greater equity</p>															



Price ceiling reduces the price from P to P_{max} .

This makes masks more affordable and improves equity in the allocation of masks

Limitations of price controls (price ceiling) in achieving greater equity

However, the lower prices cause quantity demanded to rise from Q^* to Q_d while quantity supplied falls from Q^* to Q_s , resulting in a shortage of $Q_d - Q_s$.

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

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

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

Trade-off with efficiency

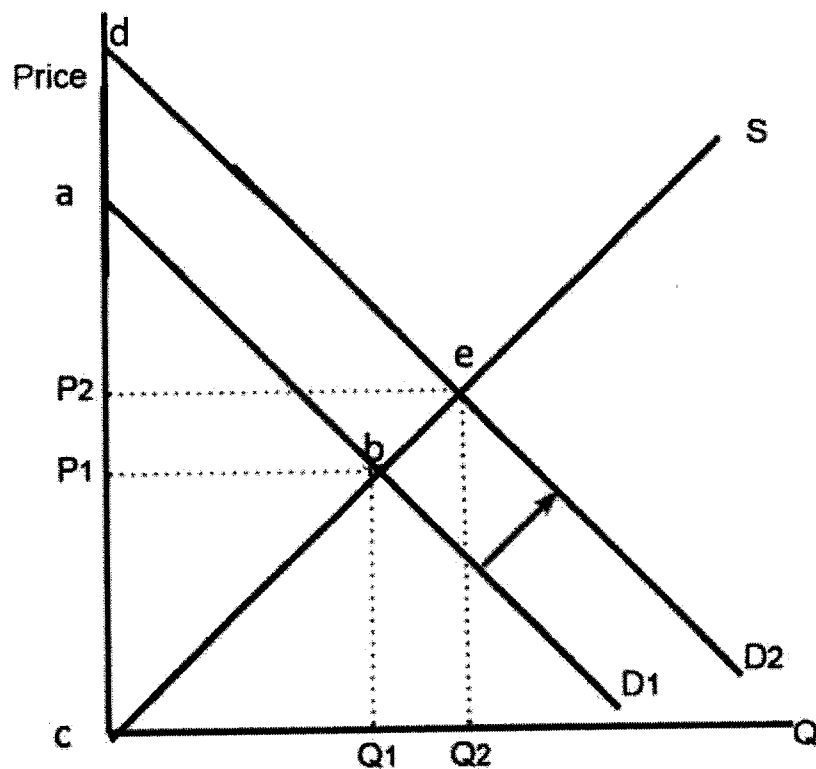
Moreover, price controls distort the workings of the price mechanism and results in allocative inefficiency as the sum of consumer and producer surplus is not maximised since output consumed falls and worsens under consumption of vaccination, thus worsening allocative inefficiency.

[Optional: At the original market equilibrium, consumer surplus is of area aeP while producer surplus is of area Ped . With the price control, consumer surplus

changes to area $abcP_{max}$ while producer surplus becomes area $P_{max}cd$. The price ceiling introduces a welfare loss of area bec , which is the area by which the total social/economic welfare (i.e. the sum of the consumer and producer surplus) has fallen by]

Hence even if price controls can achieve a more equitable outcome, the trade-off is that there is greater allocative inefficiency due to the welfare loss that it causes.

Explain how market forces (of responding to the higher demand) work to achieve greater efficiency



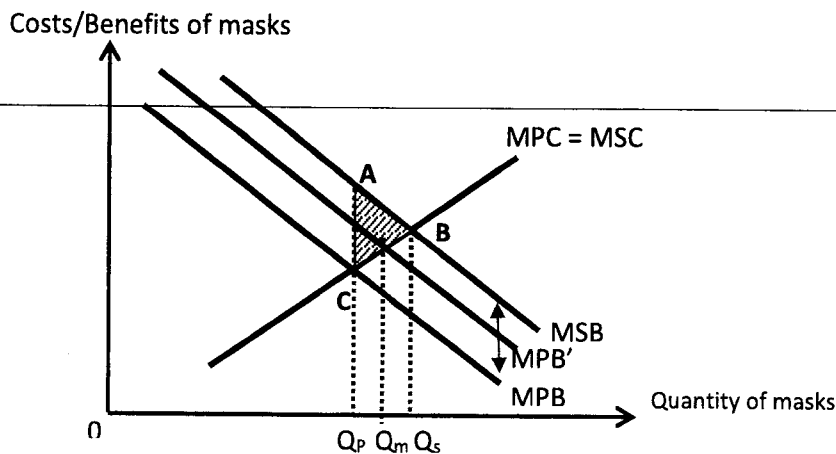
If market forces are allowed to respond to the higher demand, the market equilibrium will change from point b to point e , thus increasing output closer to socially optimal level.

[Optional: increase the sum of consumer and producer surplus (i.e. economic surplus) from area abc to area dec .]

Compared to the price ceiling, the increase in equilibrium quantity from $Q1$ to $Q2$ reduces the under consumption of masks instead of worsening the under consumption like the price ceiling.

It also results in a greater economic efficiency than with the price ceiling, resulting in a more allocative efficient outcome.

OR



A higher market demand will shift the marginal private benefit from MPB to MPB' and increase the market equilibrium quantity of mask from Q_p to Q_m , where $MPB' = MPC$, & reduce the under consumption to Q_m . Hence the welfare loss falls to area DEB, reducing the allocative inefficiency.

Limitations of market forces in achieving greater efficiency

However, the extent to which greater efficiency can be achieved with market forces depends on the extent to which the demand increases to achieve the socially efficient quantity of masks.

If the demand is higher due to greater awareness of the benefits of masks and less imperfect information, coupled with government regulation for example vaccination requirement for certain activities, it is more likely that the rise in demand will be high enough to achieve the socially efficient outcome.

Trade-off with equity

However, the higher demand will increase the market equilibrium price and make this basic good even more unaffordable to low-income groups, worsening the inequitable distribution of masks based on purchasing power alone.

Conclusion+Evaluation (Which is more desirable)

The surge in demand and prices for masks prompted some government to intervene with price ceilings to achieve a more equitable outcome.

However, with the shortage and potential formation of black markets, we can see that this approach may not necessarily result in a more equitable outcome.

Furthermore, it is clear that such price controls distort the workings of the price mechanism and introduces greater inefficiencies into the market, worsening the inefficiencies already present due to the existence of the causes of market failure like positive externalities and imperfect information.

Allowing market forces to respond to the higher demand would reduce the under consumption of masks due to the earlier mentioned causes of market failure.

While it is clear that inequity would be worsened, it is likely to be a short-run problem. The higher equilibrium prices would make it more profitable to produce masks. In the long-run, it would encourage new producers to enter this lucrative market, increasing the total market supply.

<p>The rise in supply will not only increase equilibrium quantity and further reduce under consumption, as it will also reduce equilibrium price and make masks more affordable, potentially resulting in a more equitable outcome in the long run as well. The government could also consider market based solution such as provision of subsidy to mask producers to achieve the rise in supply in the short run to reduce price and improve equity.</p> <p>Furthermore, allowing market forces to work also means that governments can be part of the higher demand to procure masks to give to low-income families especially in developing countries, forming a more effective way to address inequity in the short-run as well.</p>		
Level	Knowledge, Understanding, Analysis, Application	Marks
L3	For a well-developed balanced answer that is contextualised well. There should be well-explained economic analysis to demonstrate how price ceiling can result in a more equitable outcome and how higher demand can result in a more efficient outcome. Trade-off between efficiency and equity for BOTH price control and market forces are well-explained.	7-9
L2	For an under-developed balanced answer that may contain some minor errors or is largely not contextualised. The answer may not make good use of economic analysis/terms and is largely descriptive.	3-5
L1	For an unbalanced answer that is fraught with conceptual errors.	1-2
E2	For a substantiated judgement.	2-3
E1	For an unsubstantiated judgement.	1

[Total: 45 marks]

Question 2: Putting Migration into Perspective

(a)	(i)	State the factors that are included in the Human Development Index (HDI) measure.	[3]
		<p>The index is based on the level of:</p> <ol style="list-style-type: none"> 1) Health (measured by life expectancy at birth) 2) Knowledge (measured by combining expected years of schooling for school-age children with the mean years of prior schooling for adults aged 25 years and older) 3) Income (GNI per capita at PPP exchange rates) 	
	(ii)	With reference to Extract 4, explain how the HDI is a better measure of standard of living than the use of real GDP per capita and comment on whether this is always the case.	[6]
		<ul style="list-style-type: none"> • Standard of living refers to the well-being of an average person in the economy. This includes the <i>material (quantitative)</i> and <i>non-material (qualitative)</i> aspects of welfare. • Real GDP per capita only allows one to assess the material standard of living of an average person in a country. The higher the real GDP per capita, the higher the real purchasing power of an average person; and thus more goods and services could be bought. • On the other hand, HDI is a composite index that also takes into account the quality/non-material well-being such as the life expectancy and educational levels attained. • Hence, HDI is a better measure of the standard of living because <ul style="list-style-type: none"> - it considers both the material and non-material aspects of standard of living. For example, despite a higher real GDP per capita (PPP adjusted), health indicators such as lower life expectancy could reflect poorer health due to possibly longer working hours. Hence, in this way, the HDI provides a more holistic understanding of the standard of living of an average person in the economy. - OR the real GNI per capita measurement in HDI is PPP adjusted. The PPP adjustment attempts to measure the relative living standards between the two countries adjusting for the fact that prices are not equal at current exchange rates. OR • In addition, GDP per capita has been criticised by economists to be an imperfect measurement of well-being over space due to difficulties/different ways to calculate GDP per capita between countries e.g. some non-marketed segments of economy are not included in GDP, especially for developing countries hence underestimating GDP per capita. At best, GDP per capita is used as a proxy of material well-being 	

	<p>Judgement/Comment [2]</p> <ul style="list-style-type: none"> HDI is always better measurement of standard of living compared to GDP per capita given the fact that it attempts to factor in the non-material aspect of life since SOL concerns both the material and non-material aspects of life. Despite low GDP per capita, some countries (e.g. Nepal) can still enjoy higher standard of living given that its citizens enjoy a high non-material standard of living through other means e.g. less stress and more leisure time and religious inclination. This means HDI could be higher for these countries. <p>OR</p> <ul style="list-style-type: none"> HDI may not be much better as there is still a strong correlation between HDI and GDP per capita figures. E.g. a higher real GDP per capita does allow people to enjoy higher quality of goods and services e.g. healthcare and education and in turn a higher quality of life. This means conclusion on SOL using HDI may not change much from using real GDP per capita figures. In addition, HDI is based on only 2 non-material dimensions. However, countries that enjoy high GDP per capita may have low non-material standard of living due to other factors such as racial/gender discrimination, political oppression and environment degradation. These factors may not be captured sufficiently by HDI. 	
	(iii)	<p>With reference to Figure 2 and Extract 4, explain the relationship between HDI and emigration level. [4]</p>
		<ul style="list-style-type: none"> Based on Fig 2, the relationship between HDI and emigration is positive from low to middle HDI and then negative from middle to very high HDI. [1m] Extract 4 states that migration is expensive. This explains why countries with very low HDI based on in Fig 2, have much lower emigration toward advanced economies. [1m] As countries develop, people are more likely to access resources—such as money, knowledge, and networks, improved and awareness of better economic opportunities and lifestyles elsewhere. This tends to give people the capabilities and aspirations to migrate to urban areas or foreign lands. Hence, we see that as countries develop towards achieving low to middle level HDI, the level of emigration also increases. [1m] The positive relationship turned negative as countries further develop towards high and very high HDI. This shows that with growing prosperity and development, emigration decreases. There are opportunities locally and there is no need to migrate. [1m]
	(b)	<p>With reference to Extract 5:</p>
	(i)	<p>Distinguish between the level of productivity and the level of production of a country. [2]</p>

		The level of production describes the level of output of goods and services produced in a country in a particular time period. On the other hand, productivity is measured by the unit of output produced per unit of input in a given time period.	
	(ii)	Explain why productivity might be higher in an advanced economy than in a developing economy and comment on whether this trend may change over time.	[6]
		<p>Developed economy has higher productivity mainly due to higher quality of infrastructure; capital investment; skills/education; and skilled managers.</p> <p>More importantly, the ability to adopt new technology due to high level of skills/education allow human-capital to be complemented with technology which allows more output per man-hour. All these significantly improves innovation and in turn productivity.</p> <p>Productivity in a developing economy is likely to be lower than in a developed economy due to inadequate infrastructure; insufficient capital investment; focus on primary production; lack of skills/education; unavailability of skilled managers. These factors will result in less output per unit of input e.g. man-hour</p> <p>Comment: With productivity growth already slowing in advanced countries due to factors such as aging population, the productivity gap between developing and developed countries may narrow.</p> <p>OR</p> <p>As developing countries begin to catch up on technology, they have the potential to increase productivity at a much faster pace than advanced countries that may already have maximised the use of their resources and there is a limit to how much more they can increase their productivity.</p>	
	(iii)	Explain how migration can impose fiscal costs.	[2]
		Fiscal costs are costs arising from lower tax revenues and higher government spending/ an increase in government expenditure. As migration can depress wages in the short run and displace some native workers, governments will be less able to collect income tax revenue and may even need to distribute transfer payments such as unemployment benefits. These increase fiscal costs.	
	(c)	<p>The main policy instruments available for any government to meet its macroeconomic objectives are fiscal policy, monetary policy and supply-side policy.</p> <p>Discuss whether the cut in foreign manpower growth is the best policy to improve the employment opportunities for Singaporeans.</p>	[10]

Intro

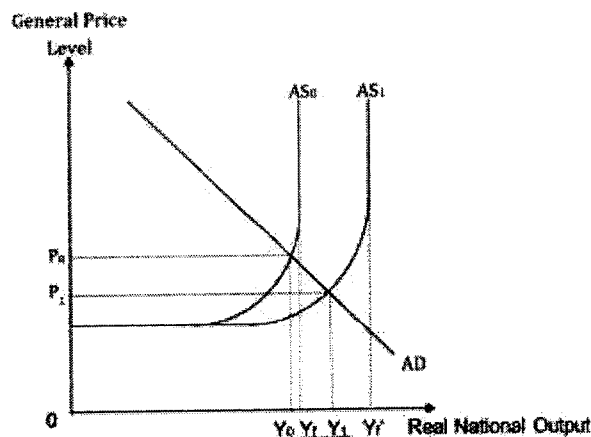
The intention to cut foreign manpower growth in the construction, marine shipyard and process sectors is to reduce Singapore's reliance on foreign manpower, particularly those mid-skilled foreign workers earning at least \$2,400 a month. The government believes that these skilled jobs can be done by locals, such as polytechnic diploma holders.

Thesis: Cut in foreign manpower is the best policy to improve the employment opportunities for Singaporeans

The cut in foreign manpower could be seen as a necessary first step for the firms to invest in/upgrade the employability of Singaporeans and for Singaporeans to take up jobs previously filled by foreign manpower.

As the growth in foreign manpower growth is cut, **firms are less able to substitute local workers with foreign workers** and there will be less competition for jobs between local and foreign workers. Hence employment of Singaporeans increase.

As Singaporeans' wages are often less cost competitive, firms will have the incentive to upskill the locals employed to increase their productivity. With the **new skills acquired or existing skills upgraded**, local workers' **productivity and employability increases**. This lowers occupational immobility and structural unemployment. As the quality of labour increases, there will be an increase in the productive capacity of the economy. This results in a rightward shift of the LRAS curve from AS₀ to AS₁. Assuming that the economy is operating at the intermediate range of the AS curve, real output will increase from Y₀ to Y₁. As production increases, firms will hire more local labour since labour is a derived demand for production. This leads to a further decrease in unemployment level among Singaporeans.

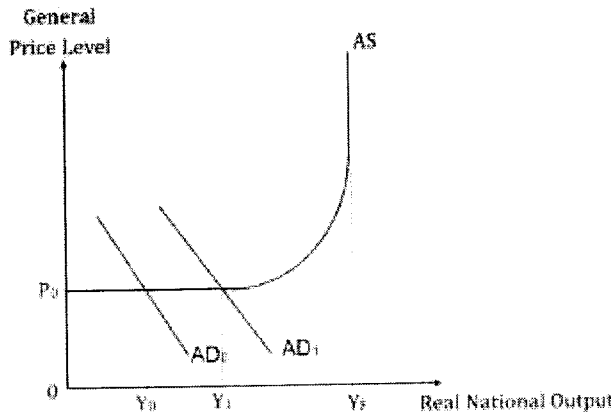


Anti-Thesis: Cut in foreign manpower is not the best policy to improve the employment opportunities for Singaporeans given its limitation. It must also be complemented by other policies

[Eval]Limitation of cut in manpower

The cut in foreign manpower will not automatically allow more Singaporeans to fill up the jobs. Local workers may be resistant to retraining due to their misperception regarding working in certain industries, advancing age for mid-career workers and not recognising

	<p>how they could benefit from retraining programmes. In addition, skills training may take a long time before their effects are seen. As a matter of fact, the Singapore government has been doing its best efforts to increase the pipeline of local workers in the construction, marine shipyard and process sectors previously over the past years but still failed to produce enough of such skilled locals. Hence, even with the cut in foreign manpower, Singaporeans are still unable and unwilling to take up the jobs in the near future and over time. As such the cut in foreign manpower will likely not improve Singaporeans' employment opportunities.</p> <p>The cut in foreign manpower may create unintended consequences such as an increase the cost of operating in Singapore due to rising labour cost. This may result in firms relocating elsewhere. This will subsequently result in job losses and deprive Singaporeans of jobs instead.</p> <p>In addition, the cut in foreign manpower in this case maybe at best creating mid-skilled jobs for Singaporeans. There is a need for the government to ensure that enough quality jobs are created for all Singaporeans with different level of skills</p> <p><u>Other complementary policies needed (One other policy preferable demand-side policy)</u></p> <p>Fiscal policy: To increase employment opportunities, the government may consider expansionary fiscal policy. For example, the government may also consider expansionary fiscal policy by reducing corporate tax e.g. put in place a partial tax exemption scheme to small and medium-sized enterprises (SMEs) to encourage investment. This would also encourage firms to invest more and create jobs for Singaporean workers.</p> <p>When income tax and corporate tax falls, Investment (I) will increase as post-tax profits of investment increases. Increase in I will lead to an increase in AD and NY via the multiplier effect. The initial increase in AD (due to the I and G) will lead to a rise in output and NY. The rise in output leads to a further rise in factor incomes as more factors of production are employed. This will cause households to increase their consumption. This subsequent rise in induced C will lead a further rise in AD and hence NY, which leads to further rounds of increases in induced C. This process stops when the rise in NY is too insignificant to induce another round of increase in C. Therefore, there is a more than proportionate rise in NY via the multiplier effect. As labour is a derived demand, unemployment will fall as firms increase their demand for local labour. In fact, if sufficient jobs are created, there may not be a need to cut foreign labour. Local and foreign manpower can be combined to create a more diverse labour force for Singapore, the country can in turn attract more investments and grow the pie for Singaporeans.</p>	
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[Eval]

Such fiscal policy can pose a strain on the government budget. A cut in taxes will also worsen the budget position. In view that Singapore has already dipped into its reserves in recent years, there may be a need to be more prudent in spending. If government spending has to be financed by borrowing eventually, it may lead to a higher tax burden for future generations.

Note: It is also possible to discuss MP (e.g. currency depreciation to increase X-M and hence AD)

Conclusion:

Hence, cutting foreign manpower itself is not the best policy to increase job opportunities automatically for Singaporeans. It must be followed up with other policies such as supply-side policy in the form of training/education, fiscal policy to overcome rising labour cost and an appropriate exchange rate policy to further mitigate any rise in labour cost to ensure Singapore's external competitiveness. This is because, while it is easier to cut foreign labour, it is important to ensure that Singaporeans are also properly trained to take up jobs freed by the foreign manpower. And that local firms are incentivised to hire Singaporeans without compromising Singapore cost competitiveness.

However, in my opinion, it is most important that Singaporeans and local firms response positively to the above government's policies for opportunities to be seized. There is still a stigma among Singaporeans to take up jobs mostly held by foreign labour. If local firms are only motivated by profits rather than national agenda, they may choose to shift their production overseas to take advantage of low labour cost. Managing these mind-sets may prove to be more challenging than conceptualising policies to create opportunities for Singaporeans.

Level	Knowledge, Understanding, Analysis, Application	Marks
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		<p>L3 For a well-developed balanced discussion on whether cutting foreign manpower (supply-side policy) is the best policy to increase employment opportunities for Singaporeans.</p> <p>There must be least one alternative policy being discussed. Good reference to extract evidence and Singapore's context and supported by appropriate tools of analysis e.g. ADAS diagram</p>	5-7	
		<p>L2 For an under-developed balanced discussion on whether cutting foreign manpower (supply-side policy) is the best policy to increase employment opportunities for Singaporeans. The answer may not make good use of economic analysis/terms and is largely descriptive.</p>	3-4	
		<p>L1 For an unbalanced answer that is fraught with conceptual errors.</p>	1-2	
		<p>E2 For a substantiated judgement.</p>	2-3	
		<p>E1 For an unsubstantiated judgement.</p>	1	
(d)		<p>"A majority of Singapore residents feel that protecting the environment and ensuring that no one is left behind should be prioritised, even if this results in slower economic growth." (Extract 7)</p> <p>Discuss the extent to which you agree with this view.</p>		[12]
		<p>Intro: Economic growth is one of the 4 macroeconomic goals of any government, including the Singapore government. Economic growth can bring about an improvement in standard of living. Economic growth results in rising real income per capita, ceteris paribus. With greater affluence and purchasing power, each individual can consume a greater bundle of goods and services. The material standard of living would thus be improved.</p> <p>Thesis: Agree with the view that economic growth should be slowed to protect the environment and reduce inequity Despite the benefits of economic growth, rapid and relentless economic growth can result in negative consequences such as environmental degradation and income inequality.</p> <p><u>Environment degradation</u> High level of economic activities that results from rapid economic growth can cause worsening of environmental degradation like air and noise pollution as well as traffic congestion. The higher external costs generated will lead to larger deadweight loss, hence worsening allocative inefficiency in Singapore. Consequentially, quality of life among Singaporeans will also be lowered.</p> <p>In addition, rapid economic growth in general can result in increased use of the Earth's scarce natural resources. This may accelerate the need to look for</p>		

alternative sources of energy and necessary minerals such as iron globally, which would not only create more environmental degradation but also likely push up the cost of production globally. Countries, including Singapore, have already been experiencing negative effects of climate change. In addition, the higher cost of production due to more expensive raw material may eventually cause a slowdown in economic growth of the Singapore economy for future generations.

Worsens income inequality

The benefits of economic growth may accrue only to a few people, especially due to Singapore's push for greater structural change. When an economy undergoes structural changes (e.g. from low technology, labour-intensive to capital-intensive industries), there may be a rise in the real GDP but workers who are unable to upgrade their skills fast enough to match the needs of the new job opportunities will find themselves structurally unemployed. Those who are unable to match the pace of transformation will lag behind and possibly fall into the poverty trap. This would widen the income gap. Hence, the increase in income of the economy that arises from economic growth may not be distributed equally or equitably among the population.

Therefore, in order to slow/avoid the negative consequences from economic growth as mentioned above, one might advocate for a slower pace of growth.

Anti-Thesis: Disagree with the view. Environment and inclusivity can co-exist with appropriate policies to achieve economic growth with sustainable and inclusive growth.

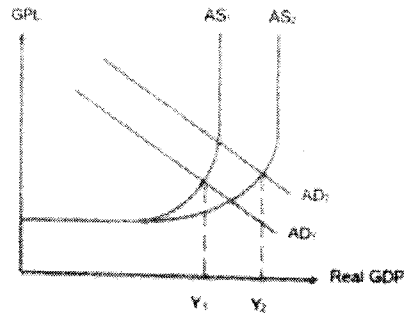
As mentioned in Extract 4, it is the less educated and skilled who will be most negatively impacted by the slower growth. One should not disregard the experiences and perspectives of these people as we advocate for slower economic growth.

Essentially, economic growth need not necessarily result in trade-offs in the form of environmental degradation and income inequality. This is, in particular, when Singapore can aim for both sustainable and inclusive growth by change the nature of how we achieve economic growth.

Sustainable growth must be maintained without creating other significant economic problems (such as depletion of resources and environmental problems or large increases in general price levels), for the future generations. To achieve sustainable growth Singapore can adopt policies that incorporate environmental developments. E.g. Singapore government has been increasing research on ecosystem (G), incentivising private firms to invest and use environment-friendly technology in their production (I). The increase in G and I will increase AD. In addition, government has also been supporting skills training to train graduates and workers for opportunity in the green economy. This helps to increase Singapore's productive capacity in producing goods and services more sustainably, causing LRAS to increase.

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. To achieve inclusive growth, Singapore government can implement policies such as fiscal policy that focuses on redistribution of income and reduce income inequality; and investment in education and training facilities from early

childhood and throughout adult life to ensure that people have the ability to access opportunities equally, and to increase productivity of individuals in ways that can create more and better jobs. The redistribution of income in the form of transfer payment helps to increase consumption by poorer households (C) and in turn AD. The eventual accumulation of human capital also increases in productive capacity and hence, AS.



In both cases, AD increases from AD1 to AD2 and LRAS increase from AS1 to AS2, Singapore not only achieves sustained economy growth but also contributes to both environment protection as well as providing equal access to opportunities and resources for people who might otherwise be excluded or marginalized,.

Conclusion

I largely disagree with the view that economic growth should be slowed in order to prioritise environment protection and ensure that no one is left behind. As a matter of fact, if growth is slowed, there might be less ability for Singapore government and firms to protect the environment by adopting green technology. Furthermore, with a slower growth, there might also mean a smaller redistribution of income to the less privileged.

Instead, Singapore should focus on achieve both sustainable and inclusive growth with the right policies to ensure sustainability and inclusivity co-exist with sustained growth. There is no need to reduce economic growth in order to prioritise environmental developments and to ensure no one is left behind.

Level	Mark Scheme	
L3	A well-developed and balanced discussion on whether economic growth needs to be slowed to achieve sustainability and inclusivity. Answer considers various perspectives and is well-supported by rigorous economic analysis.	(6 – 9)
L2	An underdeveloped discussion on whether economic growth needs to be slowed to achieve sustainability and inclusivity. Answer somewhat considers various perspectives and is supported by economic analysis.	(3 – 5)
L1	An answer that is underdeveloped; it might not have made links to sustainable and/or inclusive growth. Answer may contain conceptual errors.	(1 – 2)
E2	Answer that takes a stand on the view. Judgement is well-elaborated on.	(2 – 3)

	E1	Unexplained judgement on the stand taken.	(1)
			[Total: 45 marks]

~End of Paper~