

RIVER VALLEY HIGH SCHOOL  
 JC 2 Preliminary Examinations  
 in preparation for General Certificate of Education Advanced Level  
 Higher 1

**ECONOMICS**

**8823/01**

**14 September 2022**

**3 hours**

Additional Materials: Answer Booklet

**READ THESE INSTRUCTIONS FIRST**

Answer **all** questions.

Answer Question 1 and Question 2 on **separate** booklets. You can ask for an additional booklet if you need more than one for a question.

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

**For each Answer Booklet:**

Write your name, Centre number and index number on the first page of all Answer Booklets that you hand in. Write clearly and use capital letters. For each booklet, use both sides of the paper.

Write dark blue or black pen. HB pencil may be used for graphs and diagrams only.

**DO NOT WRITE ON ANY BARCODES.**

Write the number of the question you are responding to in the first margin.

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Question	Part	
1	ai	
1	aii	

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If the question you are responding to also contains parts, for example 1a, write the question part in the second margin.

Do not tear out any part of the Answer Booklets.

All work must be handed in. If you have used any additional booklet, please insert it inside the first Answer Booklet of the respective question.

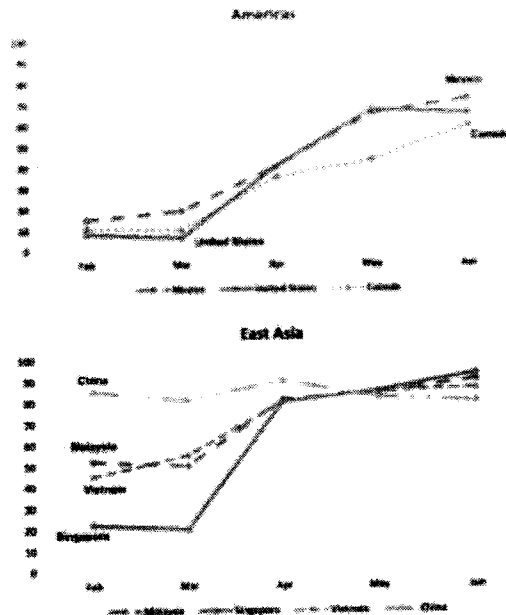


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2

Answer all questions.

**Question 1: Market for Healthcare during the Covid-19 Pandemic****Figure 1: Share of population who say they wear a mask in public in 2020 (%)**Source: *The Economist*, accessed 21 July 2022**Extract 1: The upward trend in medical mask prices**

With recent updates from the World Health Organisation warning that the Covid-19 virus could be spread through respiratory droplets produced from coughs and sneezes, a national run on household goods was set off in China. At the top of the list of items that consumers are fighting to lay hands on are facial masks.

According to Reuters, Cao Jun, a general manager of mask manufacturer Lanhine which operates a factory east of China's Ningbo city said: "[Our] firm's clients are demanding a combined 200 million masks per day compared to its normal production rate of 400,000 a day."

The demand for masks has drastically risen as a result of mass panic. Dennis Wei, a junior at Carleton College studying Economics, shared that "the primary reason for the rise in the price of masks is due to a shortage of masks." "The demand for masks has drastically risen as a result of consumers reacting to the virus while the supply of masks may have actually dropped, as many migrant workers who produce the masks were prevented from returning to work due to quarantine and other safety reasons," Dennis added.

In the face of a mask price spike, some pharmacies in China have been fined for attempts of price gouging<sup>1</sup> and stockpiling. While price gouging is not approved of by the Chinese government, this has not prevented people from buying masks at any price.

*Source: Concordia Applied Journalism, accessed 21 July 2022*

### **Extract 2: Free markets sometimes need a little help**

The United States' Centers for Disease Control and Prevention recommends that people wear face masks to protect others from the spread of the Covid-19 virus. Yet, there have been reports for weeks that there are shortages of face masks.

When a product becomes scarce, pushing up prices, producers are incentivised to ramp up production. The problem is that a person willing to pay the higher price may not be someone whose use of a mask would most benefit others.

So, let's imagine two men. The first one can do his well-paid professional job from home and doesn't go out because he fears getting the virus. The other is an essential worker who must continue to do his low-income job every day and interact with others in close proximity. When the price of masks shoots up, the first man can easily afford to order more masks for himself via Amazon, but the other is unable to do so. Since the first man interacts with few others, there's little benefit to his wearing a mask. But the essential worker interacts with dozens of people daily, which means he's protecting many others by wearing a mask.

In other words, allowing the market to allocate a scarce good through higher prices means the wrong people are likely to get it. Moreover, some people may end up hoarding masks, whether for personal use or to sell at even higher prices.

Countries touted as Covid-19 success stories have been rationing masks. For instance, South Korea limits the price to US\$1.20 a mask, far below the previous market price of \$2.00. It also imposes a weekly ration of two face masks per person to prevent panic buying and prioritize allocations to health personnel. At the same time, production was ramped up so that individuals are allowed 10 masks every two weeks.

This does not mean that all medical supplies should be under price control or rationed. But price controls on goods like masks, hand sanitiser or vaccines, once they become available, can be useful if doing so helps limit the spread of the coronavirus. The free market generally works, but sometimes it needs an assist.

*Source: adapted from The Conversation, 6 May 2020*

### **Extract 3: The case for vaccinations**

The COVID-19 pandemic has created havoc on a global scale. Countries have turned to a multi-pronged approach, involving social distancing, face masks, sanitising hands and surfaces and most recently, vaccinations that have been heralded as a safer pathway to herd immunity and a final layer of defence against the virus.

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<sup>1</sup> Gouging refers to the practice of overcharging for a good or service

To build up herd immunity, a large portion of a community (the herd) should become immune to a disease, making the disease's spread from person to person unlikely. The whole community becomes protected — not just those who are immune.

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However, effective vaccines will only contribute to herd immunity if people accept them. The far-from-universal willingness to accept a COVID-19 vaccine is a cause for concern. In a global survey of potential acceptance of a COVID-19 vaccine, positive responses ranged from 55% in Russia to 87% in China. Countries where acceptance exceeded 80% tended to be Asian nations with strong trust in central governments.

According to Professor Teo Yik Ying, Dean of the National University of Singapore's Saw Swee Hock School of Public Health, the extent of anti-vaccination sentiments in Singapore is considerably lesser than in Europe or North America as we have a smaller fraction of people with deep-seated prejudice against vaccines. The hesitancy that people face when it comes to the COVID-19 vaccine is more an issue of misinformation. This spread of anti-vaccination misinformation, including unfounded claims linking the vaccine against measles to an increased risk of autism in children, has been blamed for an increase in measles cases in recent years across many countries, such as the United States and Samoa.

Source: World Bank, 19 November 2020 and Channel News Asia, 29 December 2020

#### Extract 4: Bridging the vaccinations gap

COVID-19 vaccines are finally within reach at the end of a difficult pandemic year. But even after we have overcome the imminent challenges of sufficient supply and equitable access, a range of well-designed programme is needed to drive acceptance and uptake. Researchers, politicians, and other stakeholders have come together to propose some strategies including:

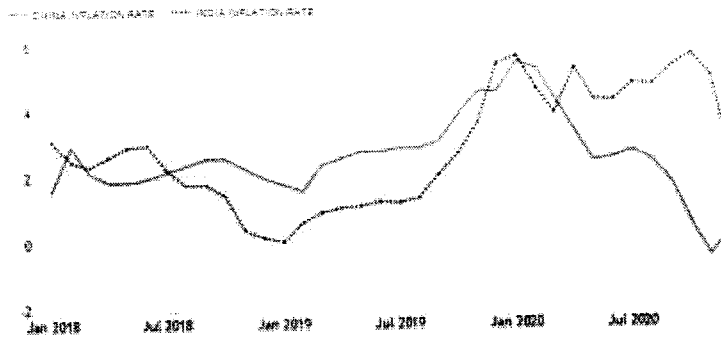
1. Making the vaccine free and easily accessible.  
Even a small charge may put people off receiving the vaccine and vaccinating at a variety of locations may reduce "hassle factors" that can act as a barrier. Making vaccines easily accessible in familiar and convenient locations, such as "drop-in" clinics that are near where people often go, can also encourage uptake.
2. Harnessing social influence.  
Researchers propose that the vaccines should be endorsed by trusted community figures. This should be accompanied by credible and clear communication from such sources demonstrating that getting vaccinated is beneficial, easy, quick and affordable. Developing trusted sources, fact-checking and responding to misinformation through dedicated dashboards can help to manage vaccination hesitancy.
3. Grants in the form of vaccinations payments.  
A stimulus check could be handed to people who complete their vaccinations, thus incentivising more vaccination take-up. Such a strategy has been implemented in other contexts where in-kind payments increased full immunisation rates among young children in India.

Source: Medical News Today, 17 December 2020

**Questions**

- (a) With reference to Figure 1, compare the share of population who say they wear a mask in public in East Asia with that in Americas from February to June 2020. [3]
- (b) Extract 1 mentions that “the primary reason for the rise in the price of masks is due to a shortage of masks”.
- Using a supply and demand diagram, account for the rise in the price of masks in China. [6]
- (c) Given the relationship that exists between price elasticity of demand (PED) and total revenue, explain why pharmacies in China attempted “price gouging”. [4]
- (d) Extract 4 mentions that the vaccine should be made free and easily accessible.
- Identify and explain the **two** main characteristics of a ‘public good’ and comment briefly on whether they are likely to be possessed by free and easily accessible vaccines. [6]
- (e) With reference to Extract 2:
- (i) Explain how the price mechanism allocates scarce resources in the market for masks. [4]
- (ii) Assess whether price controls coupled with rationing in the market for masks will bring about a more equitable outcome for society. [10]
- (f) Discuss whether the provision of grants is the best way to bring about greater allocative efficiency in the market for vaccinations. [12]

[Total: 45]

**Question 2: Economic development of China and India****Figure 2: Inflation rates in China and India (%)**

Source: Trading Economics, accessed 2 August 2022

**Table 1: Selected Economic Indicators for China and India (2021)**

	China	India
GDP Per Capita (US\$)	12359	2277
Gini Coefficient	0.47	0.50
HDI Ranking <sup>2</sup>	85/189	131/189

Source: World Bank Database, accessed 2 August 2022

**Extract 5: China's growth to more than halve**

China's economic growth likely slowed in the second quarter, as higher raw material costs hurt factories and new COVID-19 outbreaks weighed on consumer spending, a Reuters poll showed, suggesting policymakers may do more to support growth. Gross domestic product (GDP) likely increased 8.1% year-on-year in the April-June quarter, according to the median forecasts of 51 economists polled by Reuters. That would mark a significant slowdown from a record 18.3% expansion in the January-March period.

The world's second-largest economy, China has been recovering since the second quarter of last year, buoyed by solid overseas demand for its exports, but growth is losing steam as manufacturing activity slows on higher raw material costs and supply shortages, while small COVID-19 outbreaks have also restrained the growth of consumer demand.

"We maintain our view that downward pressure on growth will likely increase in the second quarter" said Nomura analysts in a note, expecting pent-up demand to subside and exports growth to weaken as developed economies reopen. They also cautioned that surging raw materials prices will suppress consumption.

<sup>2</sup> The United Nations Development Programme compiles the Human Development Index (HDI) of 189 nations in the annual Human Development Report.

With the economic recovery showing some signs of losing momentum and still uneven, analysts expect policymakers may roll out more steps to buoy activity later this year.

*Source: Reuters News, 13 July 2021*

#### **Extract 6: India's growth rates rivaling China's**

Indian Prime Minister Narendra Modi was recently in the United States (U.S.), proclaiming that India's economy is now growing faster than China's at 7.6% and is inviting more investment. Despite some impressive progress in India, experts think China's growth will continue to surpass India's even as U.S. headlines call China the "Doomed Dragon" and investors worry about China's slowdown.

In China, over-investment, inefficient state-owned enterprises, and mounting government debt are unsustainable. However, several factors weigh in its favor. The economy is large with plenty of natural resources, labour and capital. Its high savings rate means that China doesn't have to rely on fickle external capital. In spite of its rapidly aging population, China will still have surplus labour for at least the next few decades. Moreover, the government is raising retirement ages and has relaxed its one-child policy. With more than 1.3 billion consumers, China's large internal market makes it less sensitive to external economic shocks than small economies.

India has further to go. Modi and his team have been trying valiantly with some success. Just in the last month, he opened many more sectors to foreign investment and companies can now obtain many licenses and permits online, making the process faster and less susceptible to corruption. India's government agreed to invest \$52 billion in to upgrade the country's creaking infrastructure. This is a great start, but India needs \$1.5 trillion over a decade to build new roads, rails, airports and ports.

Key legislation that would make it easier for companies to buy land, to hire and fire workers and an important law to simplify India's byzantine tax system have been held up in Parliament in Delhi for nearly two years.

Despite Modi's speeches promising "Make in India" campaign, India lags far behind China in the push for manufacturing might as both countries embrace the technological improvements which could make the production faster and more efficient. Even with a slowing economy, China created more than 13 million jobs in 2014, while India struggled to fill up the jobs which were created. These are jobs India needs to absorb its rapidly growing workforce. India also has the herculean task of educating its people. To do so, the government believes it must first train between 1 and 2 million new teachers and instructors before the workforce can be ready.

If Modi's zealous reforms continue, India can unlock some of its latent potential and keep growing faster than China. Yet it is more likely that the current trajectory of 5% to 7% growth continues, and so India will be Asia's key economic engine outside China.

The economic weight of the world will continue to shift towards both Asian giants. By 2030, China and India will be the first and third largest economies in the world, with the largest middle classes that U.S. companies will wish to sell to. They will lead the world in demand for natural resources and energy and be its largest carbon emitters. American companies have good reason to pay attention.

*Source: A Brave New World, 8 July 2020*

**Extract 7: Rupee depreciates in response to changes in Chinese Yuan**

The Indian Rupee on Wednesday neared its all-time low, as most emerging market currencies fell to protect their relative competitive advantage vis-à-vis the Chinese renminbi after it depreciated, reacting to the U.S. tariff on Chinese goods.

The Rupee closed at 68.63 per U.S. dollar, about 0.29% away from its record low closing of 68.83 a dollar reached back in 2013. While far from being a currency war, India does not have much of an option but to depreciate to accommodate its exports at a time when China shows its intent to let its currency depreciate. The renminbi depreciated 0.44% against the U.S. dollar.

Considering China's importance in the global trading system, "the moment the Chinese currency comes under pressure, there would be a contagion impact all over the world. The resulting uncertainty would also manifest in the safe haven play for the US dollar", said Taimur Baig, managing director and group chief economist of DBS bank.

*Source: Business Standard, 7 November 2021*

**Extract 8: India now the world's fifth largest economy**

India became the world's fifth largest economy last year. Despite its strong economic growth, the country still faces its share of challenges. Access to development and new opportunities has been uneven, says the World Bank, varying by geographic location. Furthermore, India remains home to one quarter of the world's poor. Just 39% of its rural residents can access sanitation facilities and nearly half the total population still defecate in the open, according to the UN. Still, significant progress has been made. Poverty reduction rates are among the highest in the world, with more than 160 million fewer people living in extreme poverty in 2000 compared to 2015.

According to the World Bank, India has also been seeking ways to ensure its future growth can be more inclusive, adjusting its policies of predominantly social protections such as cash handouts and unemployment benefits to one that is more focused on infrastructure development and enhancement of technologies. Although the reduction in poverty over the last decade is remarkable, there are some worrying trends. Over 34% of the population currently classified as poor are children, and childhood deprivation has adverse implications that will carry on to their adulthood. Further, the data shows that the rate of poverty reduction is slower among the poorest states, which may result in exacerbated regional inequalities. Those cities which the central government have identified as the ones with the potential to grow have been given large amounts of funds to develop the infrastructure and the artificial intelligence competencies while some states could be ignored totally, leading them to cling on to traditional industries like agriculture and fishing for survival.

However, according to Kuznets theory of modern economic growth, income inequality tends to increase at an initial stage of development and then decrease as the economy develops. He believes that with capital accumulation, the demand for labour would eventually go up sufficiently and, thus, increase wages. The returns from acquiring skills would go also up, which would not only encourage greater investment in human capital on average, but also open up doors for upward mobility.

*Source: World Economic Forum, 19 Feb 2020 and OECD.org, 2020*

**Commented [CJR2]:** add in the OECD source as well.



**Questions:**

- (a) With reference to Figure 2, compare the changes in general price levels in China with that of India for the period Jan 2018 to Jul 2020. [2]
- (b) Using the 3 indicators in Table 1, what can you conclude about differences in living standards between China and India in 2021? Comment briefly on the effectiveness of these indicators as a measure of living standards. [6]
- (c) Using AD/AS analysis and Extract 5, account for the slowdown in the Chinese economy. [6]
- (d) Discuss whether the depreciation of the Chinese Yuan will bring about more benefits than costs to her trading partners. [8]
- (e) With reference to Extract 6, explain the type of unemployment India is likely to be facing and identify one reason why it might be difficult to deal with. [3]
- (f) Discuss the view that policies that are focused on infrastructure development and enhancement of technologies can be more effective than social protections in achieving inclusive growth in India. [10]
- (g) 'Although the reduction in poverty in India over the last decade is remarkable, there are some worrying trends.'
- Discuss whether India should continue to aim for inclusive growth. [10]

[Total: 45]



**RVHS Prelims H1 Economics Question 1 Suggested Answers:**

**(a) With reference to Figure 1, compare the share of population who say they wear a mask in public in East Asia with that in Americas from February to June 2020. [3]**

- The share of population who say they wear a mask in public generally increased for both East Asia and the Americas over the period. [1]
- The share of population who say they wear a mask in public is consistently higher in East Asia compared to the Americas. [1]
- Both East Asia and the Americas experienced the sharpest increase in the share of population who say they wear a mask in the March to April period. [1]

**(b) Extract 1 mentions that “the primary reason for the rise in the price of masks is due to a shortage of masks”.**

**Using a supply and demand diagram, account for the rise in the price of masks in China. [6]**

- Ext 1 mentions that “demand has risen drastically as a result of mass panic.”

Award 2m for any well explained Demand Determinant – Require only 1 DD determinant

① Change in *taste and preference* towards the wearing of masks as citizens became more guarded and wearier of the virus and saw masks as a safeguard. Hence DD for masks increase from  $D_0$  to  $D_1$  as seen in fig 1.

OR

② Citizens may *expect that prices* of masks are going to increase in the future given the rush for masks. As such, they may increase their current DD for masks from  $D_0$  to  $D_1$  as seen in fig 1, so as to avoid paying higher prices in the future.

Award 2m for well explained Supply Determinant

- Ext 1 mentions that supply has fallen due to a lack of workers. The lack of workers could result in an *increase in cost of production* as firms find it harder to manage production. Profitability of producers fall which lead to a decrease in supply from  $S_0$  to  $S_1$  as seen in fig 1.

Award 2m for explanation of price adjustment process:

- Identification of shortage using  $Q_d > Q_s$
- Upwards pressure on prices  $\rightarrow \uparrow P$  affects  $Q_d$  and  $Q_s$
- Shortage clears when  $Q_d = Q_s$

Full price adjustment process explanation

- At the equilibrium price  $P_0$ , an increase in DD and a fall in SS for masks will lead to a shortage given by  $Q_s < Q_d$  as  $Q_d > Q_s$
- In response to this shortage, producers will seek to increase price.
- As price increases,  $Q_d$  falls and  $Q_s$  increases.
- This process will continue until the shortage is cleared and  $Q_d = Q_s$  at a higher equilibrium price  $P_1$ .

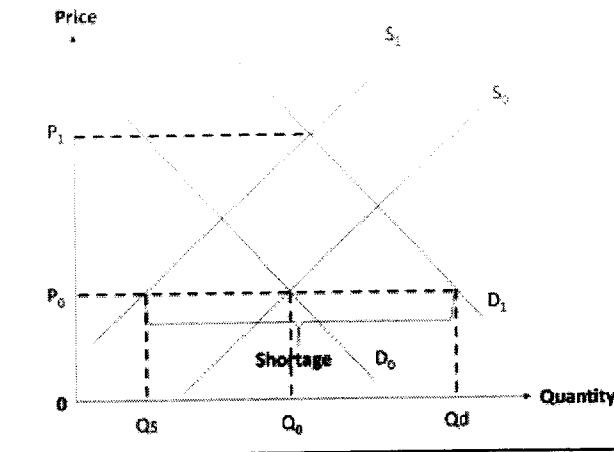


Fig 1: Market for Masks

**(c) Given the relationship that exists between price elasticity of demand (PED) and total revenue, explain why pharmacies in China attempted “price gouging”. [4]**

- As price of mask increased due to the increase in DD and fall in SS as analysed in (b), producers have the incentive to raise prices to make more revenue so that they can maximise their profits.
- When they increase their prices, the impact on their total revenue is determined by the price elasticity of demand (PED) for their good.
- PED measures the degree of responsiveness of quantity demanded due to a change in the price of the good, *ceteris paribus*.
- PED for healthcare goods like masks is likely to be less than 1, i.e. demand is price inelastic. This is likely due to the high degree of necessity/lack of substitutes given that production is falling behind demand.
- When firms attempt to price gouge and overcharge, the increase in price will lead to a less than proportionate fall in quantity demanded as  $PED < 1$ .
- This will lead to an increase in TR as the increase in TR from the increase in price outweighs the fall in TR due to the fall in  $Q_d$ . Thus there is a net increase in TR.
- *Ceteris paribus*, the pharmacies will experience higher profits; hence explaining why they attempted “price gouging”

**(d) Extract 4 mentions that the vaccine should be made free and easily accessible.**

**Identify and explain the two main characteristics of a 'public good' and comment briefly on whether they are likely to be possessed by free and easily accessible vaccines. [6]**

- The two characteristics of a public good are *non-rivalry* and *non-excludability*.
- When a good is non-rival, consumption of a good will not reduce the amount available to others.
- When a good is non-excludable, it is impossible or prohibitively expensive to prevent non-payers from using the good.
- For free and easily accessible vaccines, it is considered rival as the consumption of a vaccine will certainly reduce the amount available to others.
- Moreover, it is possible to prevent non-payers from enjoying the vaccines by having some form of a registration system, where only residents and permanent residents get to enjoy the good.

Hence, given that the good is rival and excludable, it is a private good and not a public good.

**(e) (i) With reference to Extract 2, explain how the price mechanism allocates scarce resources in the market for masks. [4]**

Price mechanism allocates scarce resources through the 3 functions,

**Award 4m for explanation of any 2 of the 3 functions (Each function 2m):**

- ① *Signalling* function - Changes in prices provide information to producers and consumers about changes in market conditions. For example, if prices of masks are rising due to higher demand, this is a signal to producers to expand production to meet the demand.
- ② *Incentive* function – Changes in prices provide incentives for producers to reallocate their scarce resources. For example, rising prices of masks act as an incentive for producers to allocate more resources to earn more profits.
- ③ *Rationing* function - Changes in prices enable scarce resources to be rationed to the parties who are most willing to pay. For example, when there is a shortage of masks, those with greater willingness and ability to pay will bid up the price of the good, thus enabling the goods to be rationed to these buyers.

(e) (ii) Assess whether price controls coupled with rationing in the market for masks will bring about a more equitable outcome for society. [10]

**Introduction:**

As the price of masks increases due to market forces and possible overcharging by the producers, the price may become too high such that some in society may not be able to afford it. Given the nature of masks being a necessity in a pandemic, the lack of access to it by those who cannot afford it constitute an issue of inequity. In such situations, price controls coupled with rationing could be considered to bring about a more equitable outcome for society

**Thesis: Price controls in the form of a price ceiling together with rationing will bring about a more equitable outcome for society.**

- A price ceiling is the maximum price that producers can legally charge for a good.
- For a price ceiling  $P_c$  to be effective, it has to set be below the equilibrium price  $P_e$  which is deemed too high.
- With reference to figure 2, at  $P_c$ , consumers up to  $Q_s$  will be able to buy masks at a cheaper mask. The lower income households can better afford the masks and be on a more level playing ground with the affluent. This helps to promote more equity as the low-income households can better access essential goods such as masks.
- However, with a price ceiling imposed, there will be a shortage given by  $Q_s Q_d$  as  $Q_d > Q_s$  at  $P_{pc}$ .
- Rationing hence can go hand in hand with a price ceiling. This can be seen in the case of South Korea in extract 2 where the government imposes a weekly ration.
- With both price ceiling and rationing, the outcome will help to promote equity as it ensures that every citizen; regardless of income level will be able to get a given quantity of the masks. The lower income households benefits disproportionately as they would otherwise not be able to afford masks under a free market outcome.

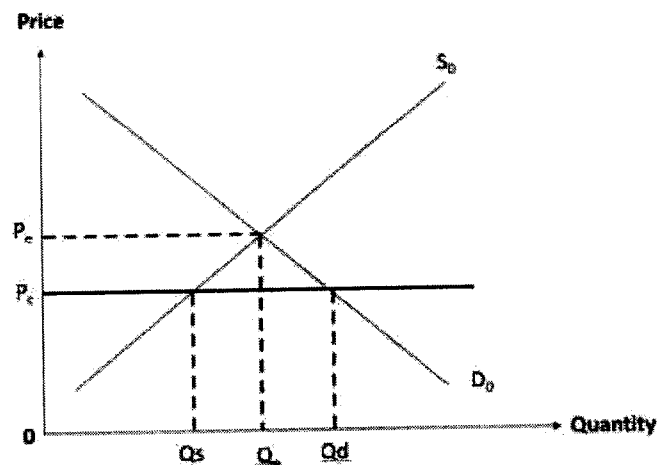


Figure 2: Market for Masks

***Anti-Thesis: Price controls in the form of a price ceiling may worsen the outcome for society in terms of equity***

- The presence of a shortage could lead to the emergence of a black market where masks could be sold at even higher prices. This would worsen the issue of inequity as it would be even harder for low-income households to access masks.

OR

- Additionally, the producers may be able to bypass government regulation and ration more of their masks supplies to their closed ones whom they have a bias towards.
- Removal of the price ceiling in the future may also lead to a destabilising effect on prices as pent-up demand for masks may lead to prices shooting back up, to levels way higher than before the imposition of the price ceiling. This would worsen the issue of inequity in the long run.

Level	Knowledge, Application/ Understanding and Analysis	Marks
L2	For a balanced and well-developed answer which includes <ul style="list-style-type: none"> <li>- Analysis of how price controls and rationing bring about greater equity</li> <li>- The drawbacks of price controls</li> <li>- Makes reference to relevant case material to support arguments. (Capped at 6 if no reference to case material)</li> </ul>	4-7
L1	For an undeveloped answer that lacks balance, i.e. only considers a one-sided argument on how price controls and rationing will bring about a more equitable outcome for society	1-3
<b>Evaluation</b>		
E	Up to 3 additional marks for valid evaluative comment(s) on whether price controls and rationing can improve outcome for society.	1-3

(f) Discuss whether the provision of grants is the best way to bring about greater allocative efficiency in the market for COVID-19 vaccinations. [12]

### Intro

The market for COVID-19 vaccinations fail due to the presence of positive externalities and imperfect information. As such, to increase societal welfare in the market for COVID-19 vaccinations, the government can intervene through the provision of grants or other policies such as the use of moral suasion to increase the level of consumption to bring about greater allocative efficiency.

### Step 1: Explain sources of allocative inefficiency

- The 1<sup>st</sup> source of allocative inefficiency is the presence of positive externalities
  - Vaccinated consumers enjoy the marginal private benefit (MPB) of lower risk of contracting COVID-19
  - while 3<sup>rd</sup> parties such as the unvaccinated individuals such as friends and family members of the vaccinated enjoy the marginal external benefit (MEB) of herd immunity as they enjoy lower risk of contracting COVID-19 from the vaccinated
  - As seen in Fig. 3 below, due to MEB, the marginal social benefit (MSB) is greater than the MPB. Assume  $MPC = MSC$ .
  - Thus, the free market output  $Q_m$  (which is determined by  $MPB = MPC$ ) is less than the socially optimal output  $Q_s$  (which is determined by  $MSB = MSC$ ), resulting in allocative inefficiency and deadweight loss indicated by area ABC.

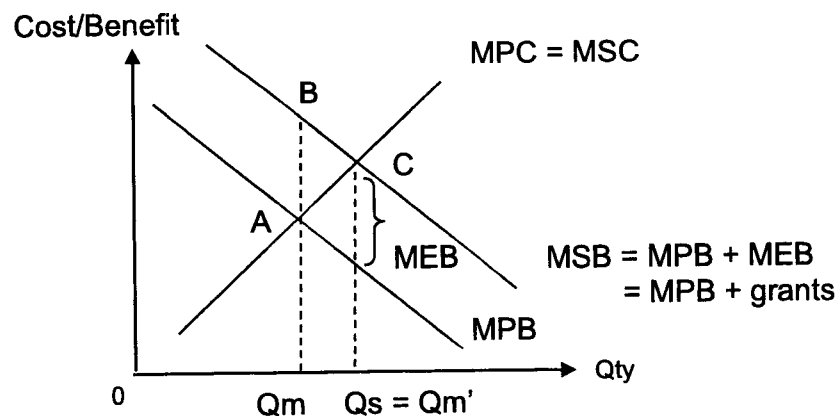


Fig.3: Positive externalities in the market for COVID-19 vaccinations

- The 2<sup>nd</sup> source of allocative inefficiency is the presence of imperfect information
  - From extract 3, the anti-vaccination misinformation misleads consumers to underestimate their marginal private benefit (MPB) of consuming vaccinations
  - Hence, consumers' misperceived MPB is lower than the actual MPB, where actual  $MPB = MSB$  and  $MPC = MSC$  assuming no externalities.
  - Thus, the free market output (which is determined by misperceived  $MPB = MPC$ ) is less than the socially optimal output (which is determined by  $MSB = MSC$ ), causing allocative inefficiency.



**Thesis: Provision of grants brings about greater AE in the market for COVID-19 vaccinations**

- When the government provides grants in the form of vaccination payments by giving consumers “stimulus check” from Extract 4, it increases consumers’ MPB.
- If the amount of grant is equal to the amount of MEB, then it increases consumers MPB to (MPB + grant) which coincides with MSB as seen in Fig 3 above.
- The new market output thus increases from  $Q_m$  to  $Q_m'$  which coincides with  $Q_s$ .
- Thus, grants bring about allocative efficiency in the market for COVID-19 vaccinations.

**Anti-thesis: Grants may not bring about AE in the market for COVID-19 vaccinations. There are other policies that can be effective too.**

- However, vaccination payments may not be the best way to bring about greater allocative efficiency in the market for vaccinations.
- It is difficult to estimate the amount of MEB and hence, the amount of payments. If the government gives too high an amount, over-consumption results and allocative inefficiency occurs. If too low an amount, there is still under-consumption and allocative inefficiency.
- Moreover, grants do not address the existence of imperfect information in the market for vaccinations. A better policy would thus be for the government to implement moral suasion to correct their misinformed perspective.
- As mentioned in Extract 4, the government can harness social influence by getting community figures to communicate to consumers the benefits of vaccination. This would increase consumer’s misperceived MPB to coincide with the actual MPB.
- The new market output thus increases from  $Q_m$  to coincide with  $Q_s$ .
- Thus, moral suasion can also bring about allocative efficiency in the market for COVID-19 vaccinations.

Level	Knowledge, Application/ Understanding & Analysis	Marks
L3	For a well-developed answer that includes: <ul style="list-style-type: none"> <li>- Two sources of allocative inefficiency</li> <li>- How the provision of grants lead to greater allocative inefficiency</li> <li>- Limitation of vaccination payments</li> <li>- Another policy (from case study) which also leads to greater allocative efficiency</li> </ul>	6-9
L2	For an undeveloped answer that: <ul style="list-style-type: none"> <li>- Lacks balance i.e. only mentions one policy</li> <li>- Lacks scope i.e. only mentions one source of allocative inefficiency</li> </ul>	3-5
L1	For an undeveloped answer that contains conceptual inaccuracies.	1-2
<b>Evaluation</b>		
E	Up to 3 additional marks for valid evaluative comment(s) on whether the provision of grants is the best way to bring about greater allocative	1-3

	efficiency in the market for COVID-19 vaccinations. A clear stand needs to be made to attain 3m.	
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### Question 2: Economic development of China and India

(a) With reference to Figure 1, compare the changes in general price levels in China with that of India for the period Jan 2018 to Jul 2020. [2]

- Both China's and India's general price levels increased at an increasing rate. [1]
- However, the fluctuations in general price levels in India were greater than that of China. [1]

(b) Using the 3 indicators in Table 1, what can you conclude about differences in living standards between China and India in 2021? Comment briefly on the effectiveness of these indicators as a measure of living standards. [6]

#### Mark Scheme:

2m for a well analysis of an indicator with respect to comparison of living standards – for 2 indicators

1m for a brief analysis of an indicator with respect to comparison of living standards

1m for a comment on the effectiveness of any of the indicators

- Living standards refer to the well-being of the typical individual and can be measured in the material and non-material aspect.
- Using the GDP per capita indicator, China enjoys a higher value [1] which suggests that there are more goods and services available for consumption for the average citizen in China. [0.5] This implies higher material well-being in China. [0.5]
- In terms of Gini coefficient, China's value is slightly lower than India. [0.5] A smaller Gini coefficient implies that income is likely to be more well distributed in China compared to India [0.5] which suggests that the gains from growth in GDP is more well spread out across the population. [0.5] Hence material well-being is likely to be higher in China too. [0.5]
- China also enjoys a higher position in the HDI ranking. [0.5] The HDI value attempts to measure the material and non-material standard of living of a country. It is a composite of indicators that looks at real GDP per capita at purchasing power parity that takes into consideration the different cost of living of both countries, literacy rate and life expectancy. [1] China's higher ranking suggests that her holistic living standards is higher than India's. [0.5]

#### Comment on the effectiveness of any 1 indicator

- While China may enjoy a higher GDP per capita than India, it may have come at the expense of longer worker hours or the generation of more negative externalities. Both of these consequences could worsen non-material well being which causes the overall living standards to lower.

(c) Using AD/AS analysis and Extract 2, account for the slowdown in the Chinese economy. [6]

**Mark Scheme:**

1m for a well labelled AD/AS diagram – Diagram is expected as part of AD/AS analysis

1m for explaining the meaning of a slowdown

2m for analysis of changes to SRAS with reference to case material

2m for analysis of changes to AD with reference to case material

- A slowdown in the economy implies that real GDP is still increasing, albeit at a slower rate. [1]
- Extract 1 mentions that there are higher raw material costs that manufacturers faces. [0.5] This will add on to the cost of production and is likely to cause SRAS to fall from  $SRAS_0$  to  $SRAS_1$  as seen in figure 1. [1] A fall in SRAS will result in a fall in real GDP. [0.5]
- On the other hand, with small outbreaks of COVID-19, consumers are affected as they perhaps become slightly more pessimistic about the economic outlook should outbreaks continue to persist. [1] OR These outbreaks could also cause some to lose their income for short periods. All these eventually results in what Ext 1 mentions as restrained the growth of consumer demand. This likely means that consumers will be cautious in increasing their consumer spending and C is likely to increase by a small extent amidst the economic recovery. [1]
- Given that the economy is facing a slowdown, the increase in C resulting in an increase in AD from  $AD_0$  to  $AD_1$  as seen in figure 1; ceteris paribus. The increase in AD is likely to outweigh the fall in SRAS such that real GDP will still be increasing but by a smaller extent from  $Y_0$  to  $Y_1$ . This explains the slowdown in the Chinese economy.

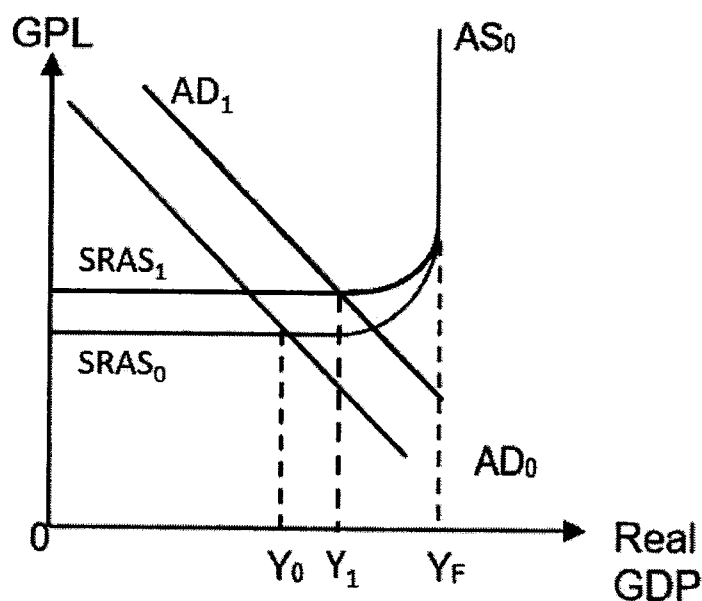


Figure 1: China's Economy

(d) Discuss whether the depreciation of the Chinese Yuan will bring about more benefits than costs to her trading partners. [8]

- Whether the depreciation of the Chinese Yuan (CNY) will bring about more benefits than costs to her trading partners would depend much on the extent of the benefits and costs that will be discussed and the likelihood of them actualising. Additionally, it would also depend on the volume of trade that takes place between China and the respective trading partners.
- When the CNY depreciates, the price of Chinese exports falls in terms of foreign currencies and the price of imports into China increase in terms of CNY.

**Thesis: Depreciation of the CNY will bring about benefits to her trading partners:**

Analysis of either benefits listed below will suffice.

**Benefit 1:**

- Assume that MLC holds ( $PED_x + PED_m > 1$ ), China's NX will increase. This will result in an increase in AD and in turn a multiple increase in NY via the income multiplier effect. China's households are likely able to enjoy higher disposable incomes and would now be more able to buy imported final goods from the other countries since imports is a function of income. This would benefit China's trading partners in terms of their export earnings. Given China's huge market of more than a billion consumers, this would certainly boost the export revenue of its trading partners; especially those who export a substantial amount of G&S to China.
- As X increases, ceteris paribus, the trading partners will enjoy an increase in AD from  $AD_0$  to  $AD_1$  and hence experience a multiple increase in NY from  $Y_0$  to  $Y_1$  via the multiplier effect; as seen in figure 2. The increase in NY entails greater production which will increase the derived demand for factors of production such as labour. When more labour is employed to increase production, it reduces the level of cyclical unemployment in the trading partners.
- Whether the increase in AD may result in inflationary pressures in the trading partners will depend on where their economy is operating at. If the economy is operating with lots of spare capacity, an increase in AD from  $AD_0$  to  $AD_1$  will lead to an increase in NY from  $Y_0$  to  $Y_1$  without a large increase in GPL. However, if the economy is operating near full employment. An increase in AD from  $AD_2$  to  $AD_3$  will lead to a substantial increase in GPL from  $P_2$  to  $P_3$  without any increase in NY.

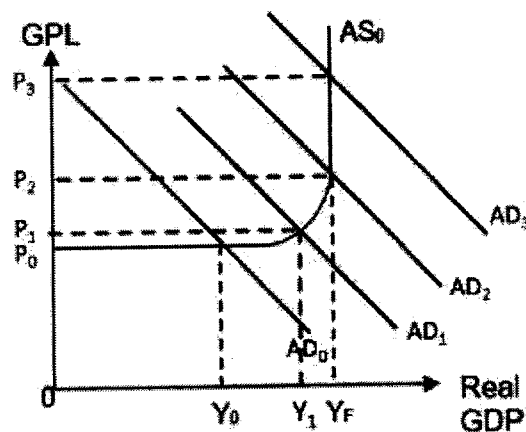


Figure 2: China's Trading Partners

Benefit 2:

- A weaker CNY leading to a fall in price of China's exports will help her trading partners benefit from cheaper imported raw materials that they buy from China. This can help to keep their imported inflation in check. Moreover, for trading partners who are import reliant such as Singapore who buys many imported final goods and services, cost-push inflation will also be kept in check.
- With cheaper raw materials, trading partners can also lower their cost of producing exports and increase the price competitiveness of their exports. This is particularly beneficial for trading partners' whose exports have a high import content level, such as Singapore.
- With increased price competitiveness, the trading partners' X will increase and in turn increase AD

Anti-Thesis: Depreciation of the CNY will bring about costs to trading partners:

- China's exports which become more price competitive after the depreciation may prove to provide more competition for her trading partners
- Direct competition in like-for-like sectors between China and her trading partners could increase pressure on them and eventually cause her trading partners to have to wind up several sectors as they are unable to compete with China. This could lead to large numbers of unemployment in the trading partners. Moreover, given that China has seemingly gained a competitive advantage, these sectors in the trading partners tend to become obsolete and would bring about structural unemployment.
- Foreign direct investment may also increase in China as foreign firms will incur a smaller capital outlay in setting up production facilities in the country as these costs are incurred in domestic currency terms. This benefits China at the expense of her trading partners.

Overall conclusion/Synthesis:

Whether the depreciation of the CNY will bring about more benefits than costs to her trading partners depends on:

- Whether trading partner is a **net exporter or net importer** with China. If trading partner is a net importer, i.e. imports more than exports to China; they are likely to gain more benefits than losses
- Depends on the extent of depreciation vis a vis her trading partners. It is likely that her trading partners will also depreciate their currency in response to China's depreciation. Hence the magnitude of the benefits and costs will move in tandem with currency movements. Moreover, given that a weaker CNY could derail the economy of her trading partners, there could be retaliatory measures by them to protect their own interest in the form of competitive devaluation.
- ST vs LT. In the ST, it is more likely that it will bring about more costs given that the move to depreciate the CNY is to protect Chinese interests; given that they are facing an economic challenge. However, should China prove successful in using depreciation to bring about growth, the resultant increase in AD will also likely lead to an appreciation of the CNY which will erode any advantage that China has carved out previously. Unless the Chinese government continues to devalue the currency, it is unlikely that any benefit or cost will persist for a long period for her trading partners.

Level	Knowledge, Application/ Understanding and Analysis	Marks
L2	For a balanced and well-developed answer which includes - Analysis of 1 benefit and 1 cost of depreciation - Makes reference to relevant case material to support arguments. (Capped at 5 if no reference to case material)	4-6
L1	For an undeveloped answer that lacks balance, i.e. only considers a one-sided argument on how depreciation of the Chinese Yuan will bring about benefits or costs.	1-3
<b>Evaluation</b>		
E	Up to 2 additional marks for valid evaluative comment(s) on the extent of the benefits or costs or discussion of the factors that will determine the overall impact of the depreciation	1-2

**(e) With reference to Extract 2, explain the type of unemployment India is likely to be facing and identify one reason why it might be difficult to deal with. [3]**

- India is likely to be facing structural unemployment. [0.5] It refers to a mismatch between the unemployed workers and the skills that the employers in the new industries require. [0.5] This is evident when it was mentioned that India was having difficulties filling up the jobs which are newly created. As India adopted the technological breakthrough and produce more manufactured goods which require the heavy capital acquisition, Indians which are lowly skilled will not be able to take on these new jobs, causing a rise in structural unemployment.[1]

One reason why it is difficult to deal with structural unemployment [1]

It might be difficult to deal with because of the general low level of education amongst the masses. The country also lacks trained teachers who can impart their skills and technical know-how to prepare the students for the newly created jobs.

**(f) Discuss the view that policies that are focused on infrastructure development and enhancement of technologies can be more effective than social protections in achieving inclusive growth in India. [10]**

**Intro:**

- Inclusive economic growth is broad-based across economic sectors and creates productive employment opportunities for the majority of the country's population. Such growth takes into account income distribution and avoids worsening income inequality.
- Social protections will be financial help that the government can issue to help the poor, and these include cash handouts and unemployment benefits for the unemployed etc.
- Infrastructure development could be initiatives by the government to build more facilities which could improve the lives of the poor. The Indian government has also improved the transportation network so that it can be more affordable to take public transport. Enhancement of technologies will be about the adoption of more capital goods and revamp of production processes to allow more automation and innovation to happen in the Indian economy.

- To achieve inclusive growth, there must be sustained economic growth first through the increase in actual and potential growth.

**Thesis: Infrastructure improvements and enhancement of technologies can bring about inclusive growth**

- Infrastructure improvements like expanding transportation networks and facilities at business parks etc constitute government expenditure on these specific areas, can increase aggregate demand and contribute towards actual growth.
- These infrastructure improvements and the enhancement of technologies also mean increase in quantity and quality of capital, increasing the productive capacity of the country, increasing long run aggregate supply of India.
- These efforts could bring about sustained economic growth as increase in productive capacity allow Indian economy to grow without increase in prices.

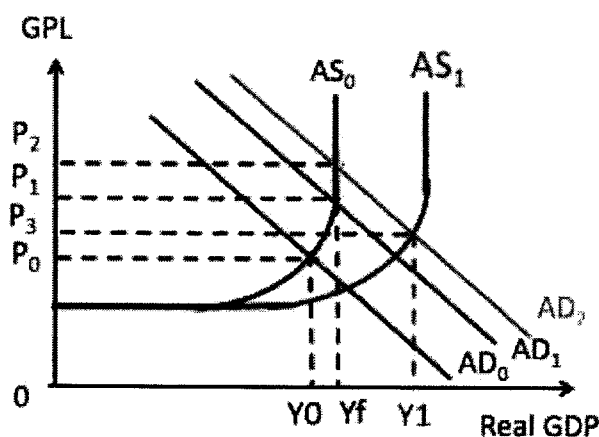


Figure 1: Sustained economic growth

Diagrammatic Analysis: [1m] – award this mark if the student can explain the concept of sustained EG with the use of a digram

- With reference to Figure 1, the initial real output is at  $Y_0$  and the economy is nearing full employment. An increase in AD from  $AD_0$  to  $AD_1$  will raise national income by a multiple via the multiplier process. Real output increases from  $Y_0$  to  $Y_f$ . This represents actual growth. If AD continues to grow from  $AD_1$  to  $AD_2$ , it will result in an increase in GPL from  $P_1$  to  $P_2$  with no change in real output, leading to inflationary growth. Since there is an increase in productive capacity where there is an increase in LRAS, real output increases further from  $Y_f$  to  $Y_1$ . Since price level falls to  $P_3$ , non-inflationary growth/ sustained economic growth is achieved. [1]

How does this lead to inclusive growth: Any one [1m]

- The enhancement of technologies and the improvement in infrastructure will enable more skilled Indians to qualify for more income and more Indians to have jobs in these new industries, bringing about a future growth that could be more inclusive. The nature of these industries allow for more sustained growth which ensure the Indians are employed in long term permanent projects so they do not need to worry about long term prospects and survival.
- Through generating economic growth, these efforts can also generate funds for the government to implement measures to improve income distribution.
- **Either:** Actual growth caused by improvement in infrastructure can generate increase in household income. And with progressive tax structure, this means larger tax revenue

collected by the governments to fund the improvements in merit goods and social securities standards for the poor.

- **OR:** Tax revenue collected can also be used to fund education and skills training for the lower-skilled workers to adapt to the new technologies, ensuring that they do not fall behind in terms of skill-set and improve wage growth.
- Cumulatively, the above measures would **reduce income gap** and enhance access to merit goods and necessities for the poorer segment of the population, achieving inclusive growth.

#### **Limitations of infrastructure improvements**

- Could be costly and drain government budget.
- Indians might not have the skills and knowledge to take on the jobs in the new type of industries brought about by infrastructure improvements and this might cause job losses in the traditional non-technological driven sectors such as the industrial and agricultural sectors, thus resulting in structural unemployment, due to the mismatch of skills between the unemployed and the job vacancies that are available. As such, wage gaps between the skilled and the unskilled can also worsen, which deteriorate the attainment of inclusive growth.

**Anti-Thesis:** Social protections can achieve inclusive growth in India too (but in a limited way).

- Social protections like cash handouts to Indian citizens will increase the disposable income of Indian households. This increases their purchasing power, leading to an increase in consumer expenditure.
- 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.
- Specifically, the social protections that are targeted at the lower-income groups will reduce the extent of income inequality. This promotes the achievement of inclusive growth.

#### **Limitations of social protections in achieving inclusive growth**

- The increase in general price level could be too fast and the social protections are not sufficient to enable the Indian masses to afford basic necessities.
- The issuance of social protections could be complex and difficult in India as the country is big with many people still living in the rural areas. There could also be corruption in the civil service, causing the funds not to be able to reach the intended Indians.
- According to Extract 1, many Indians are not feeling the increase in GDP of the country as they are not able to buy more goods and services than before, implying that the increase in GDP is not evenly distributed and only nominal GDP has increased.

#### **Conclusion:**

Policies which push for enhancement of technologies and improvement in infrastructure could be a better solution to achieve inclusive growth because they are more long term and can empower more Indians to have better jobs which can uplift themselves in the long term, instead of merely relying on cash handouts for short term survival. However, it also depends on whether the country is able to get the Indians to be equipped with the right set of skills fast enough to fill up the jobs being set up in the new industries. If the training and the reskilling are not successful and relevant to what the new industries are set up for, then the companies will still have to employ from abroad the skilled labour while the local Indians are left unemployed and unsuitable for the new jobs available, or they will have to continue to take up the low paying jobs, which might actually worsen the problem of income inequity, rendering the process of technological enhancement a double edged sword. Social



protections is not a long term solution and might even cause the Indians to be reliant on the government for financial help all the time, causing the economy to stagnate with the productivity of the country coming to a standstill.

However, if the problem of income inequity is very concerning now, with a large group of poor people unable to make ends meet now, then a multi pronged approach of both issuing social protections and implementation of technological enhancements might be necessary to achieve inclusive growth faster and on a more comprehensive level.

Level	Description	Marks
L3	A <b>developed</b> and <b>balanced</b> discussion and economic analysis about how enhancement of technologies and infrastructure development can achieve inclusive growth and its limitations. Also include explanation of how social protections can achieve inclusive growth.	5-7
L2	A <b>developed one-sided</b> explanation with economic analysis on the impact of the measures on inclusive growth.  OR  An <b>undeveloped</b> discussion with <b>some</b> economic analysis on the impact of the measures on inclusive growth.	3-4
L1	Smattering of valid points.	1-2

E3	A well-reasoned judgement which explain and justify strongly that enhancement in technologies and infrastructure development is better overall in trying to achieve inclusive growth in India.	3
E2	An undeveloped judgement which suggests that one policy is better than the other in trying to achieve inclusive growth in India.	2
E1	Evaluation without justification	1

**(g) Although the reduction in poverty in India over the last decade is remarkable, there are some worrying trends.**

**Discuss whether India should continue to aim for inclusive growth.  
[10]**

### **Benefits of inclusive growth/Problems with not achieving inclusive growth**

- 
- Higher consumption expenditure when the disposable income of the majority of the Indians increase, increase AD and result in multiple increase in national income, and this can allow more households to enjoy greater amount of goods and services. This can increase the material well-being of the Indians and the government can also collect more tax revenue with the probable increase in income to improve on the non-material aspects of life, like improving the quality of the air and water etc.
- With lower Gini coefficient, more FDI can be attracted to the country, as investors gain more confidence about the stability and future development of the economy, and these can help increase the productive capacity of the country, bringing about potential economic growth and actual economic growth.
- Inclusive growth is also desirable because there will then be lower risk of social unrest. The enhanced stability in the country could further attract more investments and the Indians could be better off with long term jobs and more goods and services to consume.
- From Extract 4, it was mentioned that the government of India have tried to reduce income inequality by ensuring the economy continues to grow and develop because they believe with more actual economic growth, then the increase in GDP will be enough to redistribute to the people living below the poverty line.

### **Costs of inclusive growth/ Problems with achieving inclusive growth/ Importance of other macro goals**

- India shouldn't prioritize inclusive growth because in the attempt to pursue more income equality, the government might have implemented policies like infrastructure improvements and emphasized on technological improvements. The skilled and trained workers might be empowered and earn higher salaries but the emphasis on higher skills at workplaces might result in structural unemployment as the lower skilled workers are displaced from work and not considered for the new positions. The attempts to bring about inclusive growth might cause a higher rate of unemployment in the short term and if the group of the unskilled workers is huge, the income gap might actually worsen. The situation might be exacerbated when there is a generally low level of education in the population of India and there is a huge disparity between the standards of rural and urban areas. The farmers and the Indians working in the rural areas are not given the attention and financial help from the central government.
- Without adequate training, there might even be a bigger group of workers who will be left behind in terms of income inequality, so there might be a need to ensure low unemployment first.
- India should not just aim for inclusive growth as pursuing more of it may lead to certain trade-offs. In trying to improve the income distribution or providing more productive employment opportunities, the rich may be taxed more as a result. With higher taxes, it could create a disincentive to invest and also reduce the ability of the firms to carry out

research and development. For high wage employess, higher taxes creates a disincentive to work and this may even lead to loss of talent. Additionally, more taxes also leads to lower disposable income and hence lower consumption.

- These outcomes of higher taxes may limit or even reduce the growth of aggregate demand and the productive capacity respectively. Aggregate demand may fall and the LRAS may see a limited growth. This leads to lower national income and increased unemployment. In the long run, India might be worse off if they do not try to attain an acceptable range of sustained economic growth first.
- From extract 2, it was also mentioned that India has used up a lot of natural resources and energy to fuel their economic growth so while this could bring up sustained and inclusive growth in the short run, the country might be compromising on sustainable growth which is rate of growth that can be maintained without creating other significant economic problems like on the environment etc, especially for future generations. Sustainable economic growth is also important as it can ensure a decent level of non-material aspect of life for the Indians, ensuring the quality of air and water is maintained at a level which is acceptable, and not deteriorated to prop up the current economic growth.

### Conclusion:

Overall, since India has risen up to 5<sup>th</sup> largest economy in the world, attaining a decent level of standard of living on paper, it is important the country focus on achieving inclusive growth to ensure that more people in the country can contribute to the development of the economy by becoming actively involved and not be detached from the country's progression. This is ultimately important if India wants to make the next leap in terms of sustained economic growth and economic status.

Also, it depends on the gini coefficient and the number of people who are living below the poverty line. If there is a large number of people, then the government would need to prioritize inclusive growth. Also, the economic goals are interconnected with one another so the government of India has to achieve a balance so that there will not be a drastic fall in a particular goal. In addition, in the long term, inclusive growth should still be an important goal so that the people will believe in the country and not result in a hollowing out effect of investments or a brain drain.

*How inclusive growth is pursued* is also crucial. Should more inclusive growth be pursued through the use of *redistribution from higher taxes*, it may adversely impact the economy in the long run as the rich are now less able to generate as much growth for the economy. However, should it be pursued through the use of *education and training* to give the future generations a higher chance of a better paying job or to equip the structurally employed with a new set of relevant skills, then more inclusive growth will be beneficial for the economy.

Level	Description	Marks
L3	A <b>developed</b> and <b>balanced</b> discussion and economic analysis about the benefits and costs of achieving inclusive growth in India.	5-7
L2	A <b>developed one-sided</b> explanation with economic analysis on the benefits OR costs of achieving inclusive growth in India.	3-4

	OR An <b>undeveloped</b> discussion with <b>some</b> economic analysis on the benefits and costs of achieving inclusive growth in India.	
L1	Smattering of valid points.	1-2
E3	A well-reasoned judgement which explain and justify strongly why inclusive growth is important for India to achieve in the short run and long run.	3
E2	An undeveloped judgement which suggests that inclusive growth might be necessary for India	2
E1	Evaluation without justification	1



