

During the covid pandemic students needed to be vaccinated to participate in sports activities or dine out in small groups.

Discuss whether providing free vaccination alone is sufficient to ensure that youths take the shot.
[15]

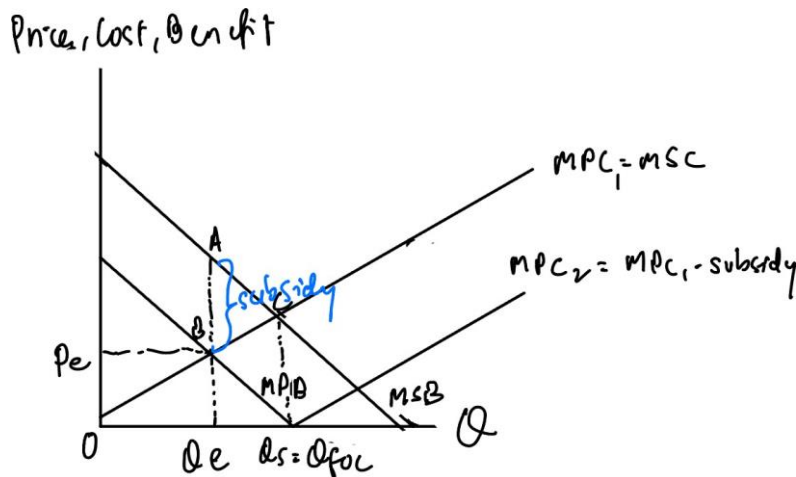
Introduction:

- Explanation is not aligned to the diagram.
- The covid vaccine is a merit good. Left to the free market, youth are likely to under consume it due to imperfect information and positive externalities.
- Briefly explain positive externalities in vaccinations and imperfect information and how it results in under-consumption.
- Government needs to intervene to ensure optimal consumption of vaccination by youths.

Body:

R1: T: Free provision is sufficient

- Due to high positive externalities from herd immunity (prevention of spread of illnesses to 3rd parties, lower healthcare costs, higher productivity), the underconsumption of $Q_e - Q_s$ results in a deadweight loss of abc.
- Briefly explain how free market and socially optimal output is determined.
- The government could intervene by providing it for free or fully subsidize private firms e.g. Raffles Medical for the cost of the vaccine.
- Assuming the subsidy is AB per dose, MPC1 shifts down to MPC2 (MPC1-subsidy).
- At P_e , a surplus is created which puts downward pressure on the price. As the price falls, quantity demanded increases – increase willingness and ability to consume. Esp in the context of youths – lack of income / lower income.
- New equilibrium price is 0, and quantity exchanged is Q_{foc} , where $MPB=0$.
- Assuming that this coincides with Q_s which is socially optimal ($MSC=MSB$), the dwl is eliminated and allocative efficiency is achieved.



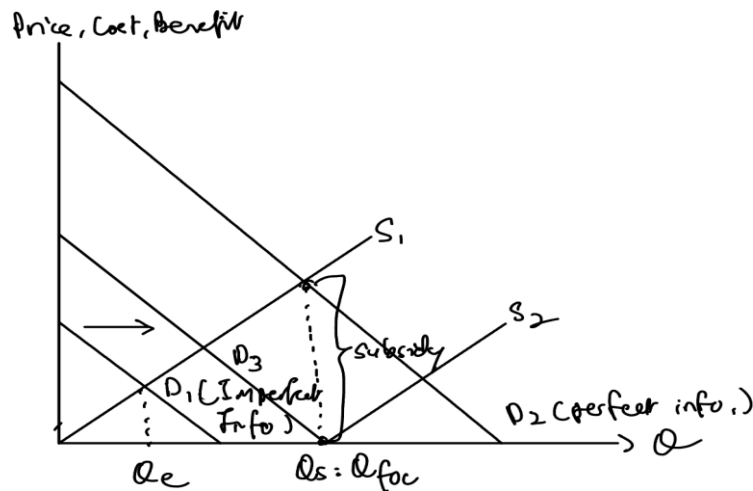
AT: Limitations

- The negative externalities could be quite significant (from herd immunity - elderly who cannot be vaccinated) or information failure causes perceived MPB to be quite low – even when $P=\$0$, $Q_e' < Q_s$.
- Imperfect information of the government in ascertaining extent of MEB → could there be over or underconsumption of vaccines?
- High op cost of free provision. Point out area of government expenditure - the funds could be spent on subsidizing education that might benefit the youth more in the long run.

R2: T: Free provision is insufficient and should be augmented with a demand side measure (either legislation or education).

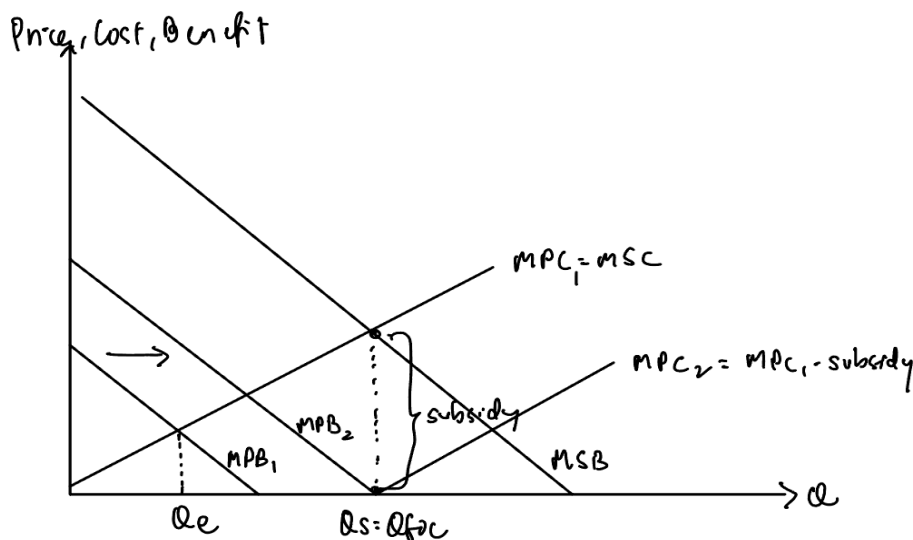
Case 1: Imperfect Information

- Assume there is a high degree of imperfect info (alternatively could use positive externality to explain- see below) and $Q_s > Q_e$ even with free provision.
- Vaccine differentiated measures will influence the tastes and preferences of the youth since they enjoy social activities.
- OR education/campaigns → give examples – HOW? WHAT?
- Demand increases to D_3 . Assuming it is also free, the government will provide the subsidy causing supply to shift down to S_2 . The new equilibrium is at Q_{foc} where $D_3 = S_2$ which is Q_s .



Or Case 2: Positive externalities (Students don't need to explain both positive externalities and imperfect information)

- Legislation will shift MPB_1 to the right to MPB_2 .
- Assuming it is also free, the government will provide the subsidy causing MPC_1 to shift down to MPC_2 .
- The new equilibrium is at Q_{foc} which is Q_s .



AT: Limitations of Edu/Campaigns / Legislation

- Ineffective – campaign fatigue, quality of campaigns
- Costly – not guarantees of success.
- High degree of monitoring is required to ensure the legislation is effective in increasing demand. If there isn't sufficient enforcement, youth might try to cheat the system. Hence a high cost is incurred in ensuring there are checks at social venues.

Conclusion and Evaluation:

Whether augmenting free provision with another measure would lead to allocative efficiency depends on

1: Degree of Ignorance (Imperfect information) among the youth.

- Youth are likely to have optimism bias and degree of imperfect information will be high.
- Depends also on public information and family background.
- If a high degree of imperfect exists among youth $Q_s > Q_{foc}$

2. Degree of positive externalities/Importance of herd immunity

- Youth are likely to congregate, there will be high positive externalities from vaccination.
- In the context of SG, there is also high population density $\Rightarrow$ greater importance of herd immunity.

Hence $Q_s > Q_{foc} \Rightarrow$ providing vaccines for free is insufficient in correcting market failure.

3. Likelihood of government failure from combining both measures.

- Could comment on the level of information available to the SG government since the government has imperfect information on the extent of market failure.
- Combining measures also increases the chance of government failure since legislation is a blunt instrument and there is no guarantee that Q_s is attained as demand might increase disproportionately further to the right exceeding Q_s .
- Perhaps the government should adopt a more targeted approach e.g. mandating that only youth with underlying medical conditions need to be vaccinated when participating in social activities. Or free provision for certain groups of people.

Overall Judgement:

Overall, providing the vaccine for free alone is unlikely to achieve allocative efficiency due to the high degree of imperfect information and positive externalities and requires a demand-side solution to convince the youth to take the shot.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	- Response is not relevant to the question – no discussion on measures. - Conceptual inaccuracies. - Lack scope and balance - Explained only R1 OR R2 without limitations	1-4
L2	- Gaps in analysis of R1 or R2. - No limitations for R1 or R2. - Only R1 or R2 with a limitation (max 5) - Dis not analyze/discuss combined effect of both demand side side and free provision in R2 (max 7)	5 - 7
L3	- Balanced arguments with good scope and depth . - Discussed both measures and combined effect of both demand-side measure and free provision in R2.	8 - 10
Evaluation		
E1	- An unsubstantiated judgement that is relevant. Judgement not linked to youth.	1 - 2
E2	- Judgement that is supported by 2 valid reasons and is relevant to the context.	3 - 4
E3	- A well substantiated judgement on whether free provision is sufficient for youth.	5