THE `LAW AND ECONOMICS' OF GOVERNMENTS' RESPONSE TO PANDEMICS

Indervir Singh[1] and V. Santhakumar[2]

1. INTRODUCTION

Governments all over the world may use or institute laws and other measures (like the Epidemic Diseases Act, 1897 in India) during pandemics like the COVID-19. These may provide special powers to governments to restrict social and economic activities and the freedom of individuals with the purpose of containing the spread of epidemics. It may be interesting to use the framework of the `law and economics' to analyse the need for such restrictions and the conditions with which these may lead to efficient outcomes. This article is an attempt in that direction. It also uses that framework to assess the response of the Government of India towards the COVID-19.

2. MARKET FAILURES THAT NECESSITATE GOVERNMENT RESTRICTIONS DURING EPIDEMICS

A starting point of the `law and economics' is to analyse the sources of market failure that necessitate the legal or institutional interventions on the part of government on a specific issue. Pandemics may lead to the following market failures.

2.1. Negative Externality

The obvious source of market failure as part of epidemics is the negative externality. The infected individuals may cause infection in others without compensating the losses to the latter. There is a need for an entity representing all individuals to act to address this problem. The negative externality (infection in this case) is emerging from a large number of sources and can affect an equally large number of individuals, who in turn can become the sources of the externality. Hence the transaction costs (required for a possible negotiation between parties who create and are affected by the externality) are huge, which makes a legal/ institutional intervention necessary[3]. It is also not a context where financial disincentives (like taxes) can be used to control the externality (and this is also due to the information

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[1] Assistant Professor, Central University of Himachal Pradesh
[2] Professor, Azim Premji University
[3] R. Coase, *The Problem of Social Cost*, 3 JOURNAL OF L. & ECON.1, 1–44 (1960).

problems discussed in a following sub-section), and there is a need for a direct control of activities that may cause or increase the externality.

2.2. Weakest Link Public Goods

Certain actions that are taken to control the negative externality during pandemics (as in other situations) have the feature of public goods. The reduced rate of infections in a locality can be beneficial to many (one person's gain does not reduce the gain of others) and it is also difficult to exclude someone from deriving that benefit. As expected, private actors may not be willing to provide such public goods adequately and hence there is a need for the intervention of an entity representing the society as a whole (and hence the need for government intervention).

The reduction in rate of infection is also a weakest-link public good [4] which makes it different from many normal public goods. A weakest-link public good is a commodity whose effective provisioning depends on the worst performer. For example, the successful control of COVID-19 does not depend on the state which is the most successful in controlling its spread but on the state, which is the least successful. There is always a chance of second wave of infections if it is not successfully contained everywhere. Also, the extent of spread of COVID-19 depends on people who are least careful or least aware. The weakest-link good necessitates government intervention so that the worst performer is good enough to control the spread of the disease.

2.3. Scale economies in certain kinds of preventive actions

The avoidance of infections or the minimisation of the spread of infections may require individual and public (government) actions. Certain actions at the level of individuals could be cheaper. Wearing masks or washing hands is of this kind. However, there are many other actions where there is a scale economy. For example, there may be a need to check the infection of people entering a territory, and this can be carried out cheaply by a single entity (rather than a multitude of individual actors), and it is socially better if the government carries out such an activity.

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[4] JACK HIRSHLEIFER, FROM WEAKEST-LINK TO BEST-SHOT: THE VOLUNTARY PROVISION OF PUBLIC GOODS, 41 (CONSERVATION ECOLOGY 2002).

2.4. Information problems

Epidemics also create multiple information problem. There could be a lack of information on the part of many individuals on what causes the infection or its implications. Private firms may not be willing to provide that information, given the substantial cost of generating such information but the very low cost of copying it. A pricing strategy which equates the price to marginal cost (which is almost zero in such cases) may not lead to the recovery of the cost of producing such information. The cost of acquiring information is not same for everyone. It is costly for the illiterate and less educated to get the right information and the chance of making a mistake is also high for them. A lot of lives may be lost before people have correct information and realise their mistakes. Hence there is a legitimate reason for the government to generate and provide that information.

Though each person may have the incentive to know whether he/she is infected and to take appropriate care (if one is not infected[5]), the private gains from this information could be lesser than the social gain (since one infected person can pass on the infection to many others), and the private incentive to use testing services may not lead to social efficiency. (Though there may not be any economy of scale in testing and that is a service which can be provided by multiple firms and a near competitive situation can be achieved in this market). There may be a need for social (or governmental intervention) due to this positive externality associated with the testing.

There are also issues of information asymmetry. Each person may not know whether the people who interact with him/her are infected or not. Even if a person knows that he/she is infected, there may not be an adequate incentive for him/her to reveal that information. Even if the information of the infection (or susceptibility) of that person is known to a third party (public system), there could be a difficulty in communicating that to the public at large. The miscommunication may cause panic and costs the society dearly. (We have seen marking/stamping on bodies during the COVID-19, and the associated problems.)

2.5. Merit good and the issues of affordability

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[5] On the other hand, he/she may not take appropriate care to avoid infecting others.

Societies may have genuine reasons for not accepting the consumer sovereignty on issues such as whether the testing of infection is to be carried out or not; whether to take appropriate care or not, etc., not only for reasons discussed earlier. Some people may not be aware or convinced of the need for such steps, and these could be costly to themselves (and others). Then there is an issue of affordability. There could be a significant section of the society which may not have the required resources to take the appropriate private care (even if they are aware of the need to do so). From the point of view of economics, they should be in a position to use borrowed resources for this purpose but the imperfections in the capital market may work against it. There could be governmental interventions driven by these considerations.

2.6. Insights from behavioural economics

What we have discussed so far are possible reasons justifying societal intervention within the rationality framework of the conventional microeconomics. However, the experiments in behavioural economics have brought out important insights on the actual behaviour of people. Some of these may strengthen the need for social intervention during epidemics. People tend to have a certain inertia[6] which may discourage them from taking steps which are known to be good for themselves. They are likely to underestimate the losses in future[7]. Both these tendencies may work against taking appropriate care on the part of many individuals.

People also tend to take instinctual decisions (rather than those after deliberations) and have a herd behaviour (by simply following what their peers do)[8]. They may have mental models of reality, and these need not be always grounded in reality. Even when new information is available, these may be internalised through a process of filtering[9] and hence would only confirm their pre-judgments. (Hence there may not be a correction of one's pre-judgements even when new counter information is available.) These tendencies can work in both ways with respect to crises like COVID-19. In the initial stages when an epidemic is new and unknown, people may take substantial time to accept it or take appropriate care. It is difficult

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[6] S. BENARTZI & R. H. THALER, SAVE MORE TOMORROW: USING BEHAVIORAL ECONOMICS TO INCREASE EMPLOYEE SAVING 164-187 (JOURNAL OF POLITICAL ECONOMY 2004).

[7] S. BENARTZI & R. H. THALER, MYOPIC LOSS AVERSION AND THE EQUITY PREMIUM PUZZLE 73-92 (QUARTERLY JOURNAL OF ECONOMICS 1995).

[8] WORLD DEVELOPMENT REPORT, MIND, SOCIETY, AND BEHAVIOR (The World Bank Group 2015).

[9] J. BARON, THINKING AND DECIDING (Cambridge University Press 2000).

for people to change their habits which may facilitate infections. The social norms may make it difficult to adopt new habits such as maintain social distancing and avoid large gatherings. This situation may warrant `stronger' persuasions and actions to motivate the people to change their behaviour. There may be a need to unsettle the prevailing mental models of reality, and the create newer ones which are closer to the reality.

The behavioural traits mentioned here also mean that once a set of newer habits (which are useful to control infections) are developed, then these may be continued somewhat unthinkingly. People may follow these as part of the herd behaviour too. Hence the needed change is to move from an equilibrium corresponding to one model of reality to another one.

People are motivated not only by their self-interest or are driven not only by monetary gains but also intrinsically (to be right, as part of their moral or ethical considerations)[10]. Behavioural economics has demonstrated that there could be certain incompatibilities between the intrinsic motivation and monetary gains or other extrinsic incentives[11]. This insight is useful in deciding strategies to motivate certain actors (like medical professionals) during the pandemics.

3. ON THE NATURE OF GOVERNMENT INTERVENTION

The different sources of market failure or different motivations and behavioural patterns of individuals (which are somewhat different from the rational behaviour presumed in conventional neoclassical economics) may necessitate societal or governmental intervention during epidemics. Each of the sources of market failure may warrant a specific intervention. For example, the negative externality may require restricting the activities that may increase the chances of infection, information problem may necessitate testing and the provision of such information to others and so on. However, there could be interconnections or `economies of scope' too. An intervention to address one failure may reduce the burden (effort) to act on another ground. For example, if information is known and can be made available on who is infected (and if they can be protected or quarantined), then that may

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[10] W. Guth et al., *An Experimental Analysis of Ultimatum Bargaining*, 3 J. OF ECON. BEHR. AND ORG. 367–388 (1982).

[11] U. Gneezy et al., *When and Why Incentives (Don't) Work to Modify Behavior*, 25 J. OF ECO PERS, 191–210 (2011).

reduce the need to control other people. Hence there could be a selection of a combination of strategies which may reduce the social cost of an intervention.

The social cost of government intervention has two components in this case. First consists of those required to enforce restrictions (including that needed to punish people who are not following these restrictions). The second component arises due to the surplus forgone (or that cannot be generated) due to the restrictions on social and economic activities. Ideally, the government should attempt to minimise the total social cost in deciding the nature of intervention. Let us use this framework to analyse the lockdown as an intervention strategy during a pandemic like the COVID-19 in the following section.

4. LOCKDOWN AS A CONTAINMENT STRATEGY DURING THE PANDEMIC

A `lockdown' in a strict sense is the ban of almost all activities outside home by individuals other than those who are acting on behalf of the government (like medical professionals, police and so on). What are the benefits of such a strategy? Through this, the negative externality, (that is, the spread of the disease by an infected person) can be limited to his/her close family members. This should reduce the number of persons who can be infected by a patient (before that person is moved to an institutional quarantine or medical care centre). Hence a safe public environment (as a public good) does not have to be provided or the `locking down' others is the public good that is available to each individual and he/she is paying a price of locking in him/her for this public good. The enforcement of the lockdown by the government benefits from scale economies. Each diseased person may get hospital treatment, and there need not be any economy of scale in the provision of this service.

How does the lockdown solve the information problems that we have discussed earlier? In a strict lockdown, it not so important for one person to know whether she is infected or not. This information is needed only if there are symptoms which make medical treatment necessary. (Or the information on infection is necessary mostly for deciding the treatment and deciding the protocol for the safety measures to be taken by medical professionals). During the lock down, each and every family is in home quarantine. There are incentives for individuals to be free from infection (due to the cost of illness) but they may not have the incentive to acquire or provide that information to public authorities in the situation of a lockdown. The lockdown also reduces the cost (making it almost zero) of information

asymmetry in this regard. People stop interacting with others (barring one's own family members) and there is no potential threat due to the information asymmetry. This is like solving the problem of information asymmetry by banning market exchange altogether!

The lockdown may be useful when people have other habits/motivations as evident from the experiments in behavioural economics. Some people may not change their routine (like going to markets or public spaces) even if they are aware of the danger but the lockdown may force them to change it. This is much more so if their peers are also of this kind. Some people's mental model of reality may encourage them to underestimate the dangers of the pandemic, but a forced lockdown may keep them away from others, and hence reducing the spread of infections.

Another important benefit of the lockdown (if it is effective) could be the reduced number of patients in hospitals. This may ensure the availability of services to all such patients. The negative externalities on the healthcare system like the possible infection of medical professionals or the reduced availability of medical services to other patients (who are not affected by the pandemic) would also come down. Otherwise, the social cost of healthcare would go up drastically if many patients reach hospitals simultaneously.

What about the impact of the lockdown from the perspective of merit good? In one sense, it is trying to protect everyone by keeping them at their homes. However, the likelihood of infection for a particular member of the family is higher in poorer households because of the limited space within homes. They are likely to bear a higher cost due to the lockdown. The non-poor sections can work from home, or take paid leave, or may have savings to meet the expenditure during the lockdown whereas the poor may be unemployed (and their work is less likely to be amenable to be carried out from home), may have only limited savings or may have a higher marginal utility of money (and hence the cost of lost income could be higher).

What are the cost of the lockdown? There are two kinds of costs as noted earlier. First include that to enforce the lockdown. Most of the police machinery may have to be used for this purpose (and there could be a diversion of their effort from other issues). However, if the state has already put in a sizable machinery for policing, then the marginal cost of using it for

enforcing the lockdown may not be that high especially by considering that other crimes may also come down during the lockdown.

It is the second cost of the lockdown that is huge. Theoretically, the lock down would lead to a standstill of a major part of economic activities (barring those related to healthcare, or those related to precautions like the production of masks, soaps, and so on in the case of COVID 19), and those that can be carried out by work-from-home and through remote activity/supervision. This would lead to substantial economic losses. Moreover, there could be a reduction of the income of governments which can impact the provision of public services in general (if there is no effort to enhance the borrowing. The social cost of borrowing may not be that high during such periods of crises). Ideally the decision to impose the lockdown should be based on the consideration of these costs and the social benefits (described in the previous paragraphs). However, this trade-off need not be a static one, and there could be innovations and technologies enabling more efficient solutions. Some of these issues are discussed in the following section.

5. POSSIBILITIES OF RELAXED RESTRICTIONS

If the testing and identification of infected people are easier, then a different form of restrictions would become feasible. This is the mandatory quarantining of these infected people, and the hospitalisation of those among this set who are chronically ill. This should allow the government the relax the restrictions over others. This can solve almost all issues of market failure that we have discussed in the first section. The negative externality is addressed since those who are likely to cause infection are restrained (or their activities are restricted). Testing and identification should be seen as the public good here since their benefits are non-rival and non-excludable, and this service is to be provided by the government, since the private provision of this service and its use by individuals who want to know whether they are infected or not, may not be adequate. Though people have some incentive to know whether they are infected or not, all of them may not be willing to pay for the testing, or even if they test and have the information may not have the incentive to reveal it.

The testing and identification by the government (and quarantining of all infected people) also solve the information issues. It can give information on whether someone is infected or

not, and the chances of interaction with such a person can be minimised. It is a better strategy with merit good considerations. If testing is done based on the susceptibility, these can cover all people (irrespective of their socioeconomic status or ability to pay and if institutional quarantining is provided to those who cannot practice social distancing within their homes), and if all others are allowed to go on with the normal social and economic activities, then the problem of the poor bearing an unequal share of the cost of lockdown can be mitigated to a great extent.

The behavioural patterns or motivations (noted in behavioural economics) will also be taken to account through this set of relaxed restrictions. Anybody suspected is tested irrespective of the inertia (or heard behaviour) or readiness and is asked to go through quarantining. Hence this isolation can happen irrespective of whether one think whether such a measure is needed or not (based on one's own mental model of reality).

Let us consider the costs of this relaxed set of restrictions. There is a cost for testing all who are likely to have infection. (This may require testing all those who may have interacted with a person who is already infected). Then there is a cost of quarantining people with infections and to see that these people are self-isolated. Monitoring to see that the infected/suspected people are in isolation may become costlier (when all others continue with their normal activities). This may require a decentralised approach. It may be necessary to have ground level functionaries (like ASHA workers in India) working with communities or local government representatives to enforce it. There could be places where decentralised institutions are already in place and such monitoring may become easier there, but the building up of this institutional infrastructure just for dealing with the pandemic could be costly.

The second cost is the opportunity cost of foregone economic activities. However, this would be considerably less than that of the blanket lockdown, since a relatively wider set of economic activities can be allowed. Hence there could be a trade-off between the first and second costs. The higher cost of instituting a relaxed set of restrictions may encourage the governments to move towards a blanket lockdown but that would lead to higher social losses (in terms of foregone economic activities). One can visualise an optimum here, whereby the marginal cost to enforce relaxed restrictions becomes equal to the marginal social loss due to

the banned activities. This trade off and the optimum may depend on specific socioeconomic and governance contexts.

An extreme form of government intervention during epidemics is `no' intervention. We have argued in the second section that some form of intervention may be needed to address different kinds of market failure in this regard. The other extreme intervention is the complete lockdown. This may be addressing the market failure but at a huge social and economic cost. However, there could be different feasible strategies between these two extremes. However, the feasibility may depend on specific social contexts. We can understand this by considering the restrictions imposed by two countries namely Sweden and India during the COVID-19 as in the following section.

6. COVID-19: SWEDEN VERSUS INDIA

Sweden has imposed only milder restrictions during the COVID-19. Ashok Swain [12] summarises these as follows: "It has stopped classroom teachings in the universities and high schools; postponed the soccer season; and, banned the gathering of more than 50 people. Aside from this, life goes on in the country, as usual. Offices, schools, shops, bars, and restaurants are open like before, as are the spas and hairdressers. Very few people are wearing masks while walking outside." The strategies followed by Sweden are different from even those in other Scandinavian countries. On the other hand, India has followed a blanket lockdown for a number of weeks.

If people are informed and if they are careful in protecting themselves, and if their physical environment enables social distancing, then government-imposed restrictions may not be that required to control the negative externality. If people are careful in limiting their interactions with others, then government intervention in the exchanges (interactions) due to the information asymmetry may not be that important. The government can save enforcement costs that is necessary for such interventions. Those who are infected can also be self-isolated at home and only those with chronic conditions need to be hospitalized.

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[12] COVID-19 STRATEGY – THE SWEDISH MODEL AND LESSONS FOR INDIA UNIVERSITY PRACTICE CONNECT, AZIM PREMJI UNIVERSITY, https://practiceconnect.azimpremjiuniversity.edu.in/covid-19-strategy-the-swedish-model-and-lessons-for-india/ (last visited May 12, 2020).

There can also be a trade-off for individuals with respect to the safety and personal freedom. It is not unusual for people to carry out apparently unsafe activities (like adventure sports) based on their personal discretion. There could be a societal aggregation of this trade off and hence there could societies which may not like a higher level of governmental intervention in the space of personal freedoms even if that is aimed at ensuring the safety of its citizens.

Given the knowledge that the end-result of COVID-19 is the chronic infection of about 5-10 percent of people, and given the personal freedoms people may enjoy, a strategy that protects who are highly vulnerable people (say by banning visitors to old age homes) or by ensuring that enough hospital workers are available (say by keeping their children in schools[13]) may become acceptable to certain countries. This may be seen as a desirable strategy since the long-run objective is to achieve the herd immunity for a substantial section of the population. Such a strategy would not lead to major economic losses and this may enhance its attractiveness.

However, such a strategy may not be acceptable to India. Or the expected loss due to this strategy could be much higher. This could be so since many people may not take adequate personal care and that may lead to a higher level of infections in the country. Many people may not be able to isolate themselves due to different constraints. Given the limited healthcare infrastructure available within the country, it may not be able to treat all chronically infected patients if infections spread fast. The possible increase in the death rate may be viewed socially and politically very costly, and that may make the blanket lockdown attractive.

There could have been another strategy in India. This is to test a large number of people who are suspected to have contacts with infected people. (Such a large-scale testing was practiced in a number of developed countries). Such a testing could have been used to practice less severe restrictions as noted in the previous section. However, the cost of large-scale testing can be high considering the size of India's population. This too may enhance the attractiveness of the blanket lockdown for the government since it has to bear the political costs of a higher level of infection and deaths, whereas the losses due to the blanket lockdown is shared by the society at large.

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[13] A strategy used by Sweden

7. APPENDIX: A SIMPLE MODEL DESCRIBING THE SOCIAL COST

We have discussed three strategies, lockdown, changing habits, and testing, to combat COVID-19. Now, the question is, should a country use one or a mix of strategies. Also, should there be any limit to using a strategy? A simple model can be used to analyze the choice among the three strategies.

Let SC be the social cost of COVID-19 that a country wishes to minimize. The social cost is the function of three strategies, (i) inculcated new habits that leads to more careful actions by citizens[14] (h), (ii) the share of economic activity not allowed by the government (x), and (iii) the large-scale testing to detect infected people (t) i.e. $SC = C(h, x, t)$. The three strategies are substitute of each other.

The social cost is combination of two costs, $f(h, x, t)$ and $g(h, x, t)$, where $f(h, x, t)$ is the cost of deaths due to infection and $g(h, x, t)$ is the cost of preventing infection by using one of the three strategies. These costs may differ among countries.

Let us assume that $f_x = \frac{\partial f(h,x,t)}{\partial x} < 0$, $f_h = \frac{\partial f(h,x,t)}{\partial h} < 0$, , $f_t = \frac{\partial f(h,x,t)}{\partial t} < 0$ $g_x = \frac{\partial g(h,x,t)}{\partial x} > 0$, $g_h = \frac{\partial g(h,x,t)}{\partial h} > 0$ and $g_t = \frac{\partial g(h,x,t)}{\partial t} > 0$. The first three inequalities mean that there will be less deaths with more stringent ban on economic activity, higher investment in changing habits or creating awareness and testing at larger scale. The fourth, fifth and sixth inequalities signify an increase in the economic losses as the ban on economic activity becomes more stringent, a higher investment requirement for inculcating better habits and a positive relation between the level of testing and the cost of testing.

Since f_x, f_h, and f_t denotes the lowering of cost of deaths due to COVID-19, they represent the marginal benefits of banning economic activity (MB_x), the marginal benefits of creating awareness (MB_h) and the marginal benefits of testing (MB_t). However, negative values of f_x, f_h, and f_t mean that $MB_x = -f_x$, $MB_h = -f_h$, and $MB_t = -f_t$. Similarly, g_x, g_h, and g_t are the marginal cost of banning economic activity (MC_x), the marginal cost of creating awareness (MC_h) and the marginal cost of testing (MC_x).

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[14] The investment required to inculcated new habits may include large information campaigns and enforcing certain
rules like making everyone wear mask. These actions do not need banning an economic activity but still requires large investment.

The aim of a country is to minimize the social cost $C(h, x, t)$, i.e.

$$min \ SC = f(h, x, t) + g(h, x, t)$$

Let us assume that SC is minimum at h^*, x^*, and t^*. The first-order condition of a minima will be

$$\frac{\partial C(h^*, x^*, t^*)}{\partial x} = f_x + g_x = 0$$

$$-f_x = g_x$$

$$MB_x = MC_x \qquad\qquad (1)$$

$$\frac{\partial C(h^*, x^*, t^*)}{\partial h} = f_h + g_h = 0$$

$$-f_h = g_h$$

$$MB_h = MC_h \qquad\qquad (2)$$

$$\frac{\partial C(h^*, x^*, t^*)}{\partial t} = f_t + g_t = 0$$

$$-f_t = g_t$$

$$MB_t = MC_t \qquad\qquad (3)$$

Combining (1), (2) and (3), we will get

$$\frac{MB_x}{MC_x} = \frac{MB_h}{MC_h} = \frac{MB_t}{MC_t} \qquad\qquad (4)$$

We shall assume that the marginal benefits, though positive, are decreasing (it requires $f_{xx} > 0$ $f_{hh} > 0$ and $f_{tt} > 0$) and the marginal cost is increasing (i.e. $g_{xx} > 0$, $g_{hh} > 0$, and $g_{tt} > 0$). These assumptions ensure that our second-order condition of a minima is satisfied.

Equations (1), (2), (3) and (4) mean that to minimize the social cost, each strategy should be used until its marginal benefits are higher than or equal to its marginal cost. A country may choose one or more strategies depending on their marginal benefits and marginal costs. In the

context of COVID-19, the situation may require a country to choose a mix of three strategies, though their optimal relative quantities may vary from country to country or state to state.

Equation (4) shows that the relative importance of a strategy depends on their relative marginal costs and marginal benefits. For example, a smaller MC_h must be balanced with a smaller MB_h. Since the marginal benefits are declining, a lower MB_h means choosing a high value of h to minimize the social cost. Since people having better education are in a better position to recognize authentic information and quick to understand the required precautions, the marginal cost of inculcating new habits is lower for them. Thus, the countries with better education like Sweden may depend more on creating new habits and awareness than banning economic activities. On the other hand, a high MB_h will compel the country to invest less in changing habits of its people and to prefer banning economic activities like it has happened in India. (Since there are large differences among Indian states, the optimization may require different strategies for different states).

It does not mean that a lockdown is less costly for a developing country like India. The cost of lockdown in terms of the loss of livelihood and income may be much higher in a developing country as compared to a developed one. The lack of an effective social security system makes the citizens of a developing country move vulnerable to the lockdown. In comparison to these two options, the option of testing at large scale may be cheaper for the developing countries. The relatively lower salaries of health workers in developing countries mean that the cost of testing may not be too high for them. The relatively lower marginal cost and higher marginal benefits (as pointed out earlier) of this option may warrant the large-scale expansion of testing capacity (i.e. choosing a higher value of t) to minimize the social cost.

8. EPILOGUE

The need for restrictions and intervention by governments during a pandemic is somewhat obvious due to different kinds of market failure (which make private actions and voluntary exchange) inadequate. However, there can be multiple strategies which may lead to different costs of enforcement and losses due to forgone economic activities. What is selected may depend on contextual, economic, social and political factors. There may be possibilities of

using innovative strategies that can minimize the total social cost. However certain context may allow the use of such cost-minimizing strategies where as others may not.