Utopian Mechanism for a Dystopian Tradeoff

As the COVID crisis hits, causing the excruciating death of many and imposing a heavy psychological toll on all, the response of most societies is to slowdown or halt viral transmission by adopting draconian lockdown policies. The rationale is to contain the spread of the disease and reduce congestion in the health sector. It is clear, though, that as much as lockdown is needed to improve health outcomes, it is economically unsustainable. Production collapses in most sectors, incomes and means of living are lost, to the point that even basic subsistence is at stake for many. To soften economic costs, many economists have proposed expansionary macroeconomic policies focused on public debt financing. These policies, beyond implementing the much needed investment in the health sector, seek to insure – through transfers and government guarantees – many households and firms severely hit by the lockdowns. Although it is undeniable that insurance is valuable in a time like this, it is doubtful that it will be itself sustainable in a world in which the largest economies and sectors are shutdown. This means that even if the lockdown-public insurance package are desirable, they should be view as short run policy that buy us time.

After one realizes this, it is imperative to use the scarce time to prepare for what’s to come next. In particular, how to reorganize and restart the economy in a “new world” in which the virus is still around and a vaccine or cure may be many months away? In a recent article, James Stock advanced a useful perspective on this question. Starting from the standard SIR epidemiological model, he argues that economic policy should seek to solve a “sub-problem”: how to optimize the economic system for a given transmission rate $β$ of the disease. Society should then choose the optimal level of transmission $β$. Because higher transmission needs fewer social restrictions, it naturally allows to achieve better economic performance. Thus, society should trade off the economic benefit of higher $β$ with its cost in term of lives lost. This is what Stock calls the “dystopian tradeoff”.

This perspective opens two in my view critical issues. First, how is society to optimize the economic system for a given rate of transmission $β$? Which sectors or activities should expand or contract? And how do we achieve such goal? Should the state take control of economic life, as in times of war, and direct economic and social interactions with extensive regulation and enforcement? The second question emerging from Stock’s analysis is: why is the relevant health parameter summarized by an aggregate rate of social transmission $β$? Individuals vastly differ in both mortality risk and in risk tolerance. So, the same aggregate rate of viral transmission is potentially consistent with vastly different health and economic outcomes. Given what we know of COVID, if transmission mostly occurs among the young or women, the aggregate mortality rate may be orders of magnitudes lower, and the economic performance better, than if the same rate of transmission mostly occurs among the elderly or the already sick. Likewise, if transmission mostly occurs among people who are willing to bear mortality risk, the distress borne by less risk tolerant individuals would be lower, so that both the social and the economic outcome be better. We know that massive difference in risk taking exist in society. Some people refrain from flying in airplanes, others engage in dangerous occupations or activities.

Many readers have surely hinted what these observations lead to. They lead to a perspective whereby a solution to the COVID economic crisis hinges on implementing and efficient allocation of the mortality risks springing from economic and social transactions across different individuals, and to find a mechanism that achieves such an efficient allocation. In this note I do not offer a solution, but sketch an approach to the problem. This approach is based on two principles.

First of all, inasmuch as government involvement may seem appealing during an emergency, I will rely to an important extent on markets and the price system. To a very basic extent, I feel that the problem has to do with finding a reasonable price of risk from a highly heterogeneous pool of individuals. Although I am no ardent believer of markets, and I do not think that the market price is always “right”, I think that it would be wholly impossible for the government to implement through regulation the vast amount of information reflected in a myriad of individual choices of millions of people characterized by different abilities and willingness to bear the risk of being infected by the virus.

Second, I think any economist would agree – and I am no exception – that in the context of this health crisis markets along cannot do the job because externalities are crucial. For instance, young infected workers who have a low risk of death may come into contact with old and sick acquaintances or bystanders, shedding undue and unwanted mortality risk on them. This externality is arguably at the heart of the conventional view of thinking about the health problem as being summarized by an aggregate rate of transmission $β$ to which a population wide mortality rate is applied. I believe that the assumption of perfectly porous social groups is unrealistic just as the assumption of perfectly compartmentalized groups is. We all joy, in the hardship we face, to see how within households but also outside, the young willingly take precautions they would not otherwise take to protect about their elderly relatives or friends. Because they care about them. Of course, altruism is not enough to create social separation. But there is another, critical externality at play that markets cannot properly price: that of congestion. High mortality and risk tolerant individuals may take too much risk from a social standpoint, causing the health sector to get clogged also for high mortality but risk averse individuals that may happen to get infected. The government is needed to handle this externality, too. The second pillar of the approach I propose is for the government to play a key role in: i) enhancing separation by issuing and enforcing rules that coordinate the activities of different groups, and in ii) charging risk takers for the negative externality they exert on non-risk takers. If markets create a price of risk, the government ensures property rights over it.

The philosophy of the perspective advanced here is that in this emergency optimal government policies should strive to enable markets and the price system rather than to supplant them. If the COVID crisis lasts for months, we may need a vast reallocation of resources across the economic system. To achieve such reallocation without making gross mistakes, we need the price system. A core objective of economic policy is to rescue it by enforcing property rights on risk. For the price system to work, the government may need to temporarily amend, or suspend, sectoral rules for wage bargaining and price fixing. For property rights to work, the government may need (and will have to in my approach) suspend privacy protections. As much as these arrangement have their own logic and potential benefits, they cannot be maintain under the current extreme circumstance. We should be willing to trade lower privacy for greater economic freedom, we should be willing to accept unusual price and wage changes to avoid that unnecessary deaths must be incurred to guarantee the economic subsistence of many.

Before articulating the reasoning behind my perspective, a few words on its relationship to current policies implemented during the COVID crisis. On significant distinction concerns that among countries that implement uniform lockdowns vs countries that implement selective lockdowns (that seek to attain a lockdown for the elderly and vulnerable while letting life in the rest of society “run its course”). My perspective is related to the latter approach. Current attempts at implementing the selective lockdown approach have a merit: they make progress in separating different risk categories. They however, have two important pitfalls. First, they entirely rely on groups defined by the government. Aside from the fact that the groups may not be fine gained enough, they most importantly do not rely on voluntary participation. A person is forced to be a member of one group and not of another that he may like more. This can be grossly inefficient because individuals who have sizable mortality risk but are willing to sacrifice it for economic freedom are not allowed to do so, while individuals who may have low mortality risk but are scared or may be able to work from home or self-isolate at low cost are not allowed to buy protection either without essentially disappearing from society. Second, and related to the last point, the different groups are not efficiently separated (i.e. property rights on risk are not protected). How can a high risk subject, say an elderly, effectively protect himself against mortality risk if many of his economic/social interactions occur with individuals who run life as usual, therefore being likely carriers of the virus? To effectively implement property rights on risk, the government must coordinate activity across groups that are more tightly separated than what we be achieved by legal moral suasion or with current privacy arrangement.

A second main difference across responses to the crisis is that between countries that engage in extensive testing and countries that engage in limited and selected testing. The approach I outline here would of course greatly benefit from widespread testing, for the latter greater risk awareness by market participants and hence enable more accurate decisions. For instance, individuals who are found to be asymptomatic may choose to go on with life as usual since there is no cost for them to do so. Alternatively, individuals who are found to be recovered may choose and be allowed to interact with both risk takers and non-risk takers because they are on the one hand not subject to additional risk and because, on the other hand they pose no risk of transmission for risk intolerant types. As much as knowledge of these underlying conditions may be useful for the workings of the price system, it is by no mean necessary. A system based on freedom of choice can achieve a better allocation than one based on direct command for any given amount of information available. Of course, information campaigns will be needed to make individuals in different age/gender groups or with different pre-existing conditions to be aware of the risks they choose to bear, but there is no sense in which the amount of knowledge needed to operate the market system is larger than that needed to operate a centralized one. In fact, if anything, a market system with voluntary choice may actually reduce the need for extensive testing by allowing some economic activity to resume without making sure than market participants face no or very low risk, helping countries that may unfortunately lack to logistic capability to ramp up the number of tests, at least in the short run.

A third, and final, difference in reactions to the COVID crisis is that between countries that seek herd immunity and those that seek to reduce contagion. The objective of herd immunity (if it exists) has often proven not credible, because many people are not willing to become involuntary vehicles of herd immunity. My approach, while very different, is related to the herd immunity approach. Groups who are willing to take risk are the efficient producers of herd immunity. So, allowing some parts of society to experience more contact than others may help achieve herd immunity in a faster, more efficient and credible way.

Two caveats on the approach. First, it is a philosophy of thinking and moving forward than a practical recommendation. It is certainly not a mechanically implementable blueprint. In fact, it is highly abstract and even utopian (hence the title), but perhaps may yield lessons of practical relevance. Second, it is not paternalistic. Some people may profoundly dislike this aspect, arguing that it may led some to take excessive risks or “force the poor to accept death for bread”. As I said before, I am sympathetic to the sub-optimality of individual choices and hence of market outcomes, but I am even more doubtful about the allocation of risk that would be implemented through government regulation. In addition, we routinely rely on the market to allocate people to dangerous occupations such as voluntary army, working in mines, etc and these jobs carry a compensating premium. It seems to me that in the current circumstances this is exactly the type of mechanism that we want to harness. This does not of course exclude the possibility that the mechanism may benefit from the introduction of a subsistence level minimum income of a sort, particularly because personal conditions vary over time, so a basic insurance (e.g. conditional on medical test) might be helpful.

Key ingredients of the mechanism:

Activity takes place in space and time

Three or more groups with voluntary participation. E.g.: high risk (white), no risk (orange), low risk (blue)

In low density rural areas, time is irrelevant. Activities (productive establishments/restaurants, shops, hotels etc.) in space are tagged by color.

In high density areas (cities): activities in space are tagged by color. But usage of the activities may need to be tagged by time (e.g. blue take a walk/go to blue supermarket from 10 am to 12 am, and whites can’t be around. Orange can always be around. This is what I call state level coordination.)

Color is not fixed. If a blue and a white interact: blue becomes white. Blue-white interaction are sanctioned. One can always move from blue to white. One can move from white to blue (or from any group to orange) by taking a medical test. For families, color is a family level decision. If a family has more than one home, they can temporarily split. Reallocation of family tasks may occur depending on opportunity costs (e.g. the low risk women may go to work and the high risk husband stay in the second home with the elderly. The kids, depends on the age. But again, this is private choice). Hotels (of which there is certainly excess capacity for tourism) could be used to favor temporary separation for people who do not have homes.

The government charge a price for becoming white that acts like a Pigouvian tax.

Wages and prices of goods/services are group specific and free to adjust.

Implementation: cellphones with visible tags (highly imperfect), non-removable bracelet (ideal but more expensive and slow to introduce). All gps based. Suspension of privacy.