COVID-19

Libertarian approaches to the COVID-19 pandemic

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Abstract
This study examines the practical implications of libertarian theories of justice in the context of the COVID-19 pandemic. First, we show that the libertarian central value of freedom does not just include economic and political autonomy but also one’s right to life. Secondly, we demonstrate that lockdown measures are acceptable to libertarianism if they are appropriately implemented. Nevertheless, in contrast to a utilitarian approach, libertarians reject excessive interventions, such as contact-tracing mobile apps, even if these promote people’s welfare. Thirdly, we show that there is a broad spectrum of lockdown implementation methods based on differing interpretations of Lockean property rights. By comparing three kinds of libertarianism, we outline a set of libertarian proposals that use markets for the exchange of permission slips to go out during a lockdown. We then show that libertarianism offers a reasonable and non-conflicting resolution for the trade-off between health and people’s freedom, thereby illustrating the suitability and legitimacy of a libertarian response to the current crisis.

KEYWORDS
COVID-19, freedom, justice, libertarianism, market, pandemic

1 | INTRODUCTION

Since the beginning of 2020, the world has been enduring a new viral disease, COVID-19. As a result of the pandemic, humans are facing at least two trade-offs between fundamental values. The first is the trade-off between public health and the economy; the second is the trade-off between freedom and safety. Typically, the benchmark in resolving trade-offs like these is provided by an application of utilitarianism, one of the most influential methods in ethics, political philosophy, and other normative social sciences. Utilitarianism is applied extensively to various institutional arrangements in the real world, but it is not the only plausible framework for this purpose. For several decades, philosophers have argued for various alternatives, such as John Rawls’s justice as fairness. Hence, it is appropriate to consider how such alternative theories weigh the options in the aforementioned trade-offs and what kind of political solutions they prescribe. Specifically, the present study examines the practical implications of libertarian theories of justice for responses to the COVID-19 pandemic.

There are two important features that make the COVID-19 pandemic a hard case. First, at a given time it is not known exactly who is infected since there are many asymptomatic cases. Even when real-time polymerase chain reaction (RT-PCR) tests are readily available, we cannot dismiss the impact of false-positives and false-negatives. Secondly, even though the average fatality rate is not high, some infected people face a financial crisis, and because of that inequality in health among individuals is a serious issue. We examine how libertarianism...
resolves this hard case, taking proper account of both uncertainty and inequality.

It goes without saying that libertarianism values freedom very highly. Consequently, libertarians often consider coercive interventions to be violations of basic individual rights. Some legal restrictions on individual activities have been introduced in response to the COVID-19 pandemic, however, and because of the conflict between such restrictions and libertarian core values, libertarianism has been mostly ignored in attempts to defend such policies. At the same time, libertarianism has been abused by those who believe that any kind of intervention is unacceptable. In contrast to that belief, we demonstrate here that libertarianism offers normatively plausible ways of addressing the COVID-19 pandemic. More precisely, we argue that lockdown measures are acceptable if they are appropriately implemented.

Based on John Locke's concept of property rights, a broad spectrum of libertarianisms and libertarian responses to the pandemic can be formulated, ranging from "right" to "left." By examining these variants of libertarianism and their different policy implications, we show that libertarianism has a plausible way of dealing with the pandemic and its effects. Furthermore, our study shows that it is unreasonable to oppose lockdowns and similar measures in the early stage of a pandemic, when infection spreads dramatically and risks are still largely unknown. Significantly, many of the opponents of such measures are (or consider themselves to be) libertarians of some flavor, but a plausible extension of Lockean libertarianism cautiously supports such measures, even though there are various ways of implementing them. Hence, we also demonstrate here that these opponents' hostility to lockdowns is not coherent with key libertarian values.

2 | WHAT IS LIBERTARIANISM?

Libertarianism is a class of political views that assigns fundamental importance to individual freedom. Libertarians are strongly opposed to the legal enforcement of actions to promote social welfare without obtaining voluntary consent. In principle, people ought to be protected from government intervention. This does not mean that libertarians reject any kind of government intervention, however—libertarianism is not the same as anarchism.

In response to the challenge of anarchism, Robert Nozick shows when and why government intervention is permissible. In his argument, freedom is defined as the prevention of, or protection against, aggression by others, including protection of one's own life. Because one's right to freedom is threatened by others in a state of nature, one can expect the emergence of some kind of service to protect people's rights. Subsequently, agencies that supply this service tend to converge into dominant protecting agencies through a process of competition and elimination. These agencies are different from "states" because they do not have exclusive rights to use coercive powers, while a distinct feature of a state is that it has such an exclusive right to coercive intervention within its jurisdiction. Nozick appeals to people's claims to compensation when their rights to protection are violated to explain the development of this exclusive right to coercive power. In this way, what Nozick calls "the minimal state" emerges. The minimal state is permitted to interfere with those who are willing to keep a contract with certain dominant agencies, as long as the state is liable to those people. This is what justifies the minimal state with respect to the anarchist challenge. In the minimal state, people are legitimately taxed for their protection against aggression. Hence, taxation for protection is an acceptable coercive intervention for libertarians. This is the Nozickean justification of the minimal state.

What kind of coercion is acceptable to libertarians? Nozick's argument shows that they may accept the use of coercive power, even without consent, to prevent people from harming each other with respect to their fundamental rights. The ordinary activities of people involve a collective action problem: their voluntary actions include non-negligible externalities. In ordinary life, people unavoidably face social dilemmas, such as the prisoner's dilemma and variants thereof, and such social dilemmas can lead to brutal "wars" that cost human lives. A libertarian state does not allow people to engage in such activities, and by reasonably securing people's lives in this way the state legitimizes itself. Thus, an individual's action is prohibited by the state if that action would constitute a serious threat to (the rights of) other people, regardless of how innocent the individual's action might seem.

A practical proposal for such a permissible coercive measure from a libertarian point of view has been made by Jason Brennan. To justify mandatory vaccination, he appeals to the clean hands principle, according to which "there is a (sometimes enforceable) moral obligation not to participate in collectively harmful activities." Brennan argues that harmful collective activities that can entail severe risks for (many) others must be coercively inhibited on libertarian grounds. In other words, actions that may cause serious negative externalities must be prohibited. Since unvaccinated people can infect many others and thereby cause a disease to spread throughout the general population, the clean hands principle justifies mandatory vaccination. According to Brennan, the clean hands principle is supported (or supportable, at least) by a broad family of

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6Admittedly, this is based on an extensive appeal to the liability rule for endorsing minimal taxation without people's consent. For this convincing route to a minimal taxing state, see Mack, E. (2011). Nozickean arguments for the more than minimal state. In R. M. Bader & J. Meadowcroft (Eds.), The Cambridge companion to Nozick's anarchy, state, and utopia (pp. 89–115). Cambridge, U.K.: Cambridge University Press.
7Axelrod, R. M. (1984). The evolution of cooperation. New York, NY: Basic Books; Buchanan, J. M., & Tullock, G. (1962). The calculus of consent. Ann Arbor, MI: University of Michigan Press.
8Brennan, J. (2018). A libertarian case for mandatory vaccination. Journal of Medical Ethics, 44, 37–43.
9Brennan, J. (2011). The ethics of voting. Princeton, NJ: Princeton University Press, p. 40.

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3Carter, I. (1999). A measure of freedom. Oxford: U.K.: Oxford University Press.
4Various theories, including utilitarianism and libertarianism, may support lifting these measures in later stages. In contrast to libertarianism, anarchism can consistently oppose lockdown measures at any stage of the pandemic, but anarchists oppose any form of state and governmental intervention—their hostility is not limited to COVID-19-related policies.
5Nazick, R. (1974). Anarchy, state, and utopia. New York, NY: Basic Books.
libertarianisms. It is also a natural extension of Nozick's argument. Furthermore, the clean hands principle can apply to a wide range of practical issues, including several issues arising owing to the current pandemic. Specifically, with this principle, one can assess whether and how coercive intervention, such as lockdown measures, can be justified from a libertarian point of view. As in Nozick's argument, the normative requirement is that people must be protected from (even apparently innocent) actions (by others) that could cause a serious threat to their lives.

Although the topic of vaccination raises important moral issues in the current circumstances, with difficult trade-offs between risk reduction and individual freedoms for different age cohorts, it is outside the scope of the present paper. Here we focus on lockdowns and the enforcement of social distancing.

3 | COERCIVE INTERVENTIONS IN THE COVID-19 PANDEMIC

Since early 2020 many countries have enforced various measures, such as social (or physical) distancing, to curb the spread of COVID-19. One of the strictest of such measures is lockdown, which comes with the closing of schools and restaurants, restrictions on gatherings, and limitations on the use of public transportation. If the reported number of new infections dramatically increases, an entire city is shut down. Such lockdown measures can be seen as grave interventions in the private sphere, however, and for this reason, there are many people who oppose such interventions. Anti-lockdown protests have occurred in the United States and elsewhere, with the first noteworthy protest taking place in Michigan on April 15, 2020. According to the protesters, lockdown measures violate individual freedom.

Can libertarians endorse lockdown measures? Our answer to this question is positive, provided that these measures are implemented reasonably. People's activities generate non-negligible negative external effects if no restrictions are imposed. Moreover, these effects are unacceptably severe, particularly for the elderly and people with certain disabilities and/or underlying diseases—or, simply put, for "the vulnerable." It has been argued that social distancing and related protective measures are a "public good" that is served to people in the face of a collective action problem involving non-negligible negative externalities. Although people make an effort to maintain social distance to reduce the risk of infection, and although altruistic concern may motivate people to voluntarily implement various protective measures, such voluntary actions are not sufficient to cope with a pandemic. Furthermore, the risk of infection remains unclear in the early stage of a pandemic. For these reasons, the issue can be seen as an urgent collective action problem, which is an important cause for justifiable coercive intervention by a libertarian state. Since people's lives are at risk in an unacceptable and avoidable manner, it seems that the Nozickian minimal state can endorse certain lockdown measures.

Another important policy implication of libertarianism concerns the case of contact-tracing mobile apps, which have been shown in scientific research to be helpful in controlling the spread of COVID-19. While introducing such apps is expected to promote social welfare in ways that utilitarians can be reasonably expected to advocate, libertarians would either reject such apps, or accept them only with strong reservations, because they violate people's fundamental right to privacy. Moreover, the infringement on this fundamental right is a serious one. Information about people's personal lives collected by tracing apps may be abused, for example (especially if this information falls into the hands of third parties through hacking or a data leak, which is a non-negligible risk). And even the mere possibility of such abuse may encroach on people's social and economic lives. We believe that for this reason, libertarianism rightly rejects sacrificing the individual right to privacy to serve some social or collective objective.

We want to emphasize here that libertarians do not dismiss the relevance of economic situations or health conditions. On the contrary, libertarianism recognizes that health and income are decisive factors in an individual's life. Furthermore, a free society requires market transactions, as well as economic growth, because only in circumstances of economic growth can people become better off without making others worse off at the same time. However, a long and strict shutdown limits market transactions and depresses economic growth, and can cause other kinds of economic damage. Thereby it directly affects people's financial conditions, but indirectly also their health conditions, especially in the case of the aforementioned vulnerable groups. If such negative effects of long and strict lockdown measures are taken into account, libertarians can no longer accept them. This negative conclusion reveals a strength of libertarian theories, because it illustrates that libertarianism can reasonably handle a trade-off between individuals' health and the economy.
A lockdown is expected to protect people's health, and in the short term, the benefits of a stringent lockdown in high-risk areas outweigh the negative effects, but in the long run, the balance shifts and this is no longer the case. From a long-term perspective, libertarianism requires an appropriate way to lift or deregulate lockdown measures.

An important issue is the diversity of the negative effects of SARS-CoV-2. The virus causes serious health problems or even death for some people, while it does not kill or even significantly harm many others. Importantly, the unharmed are the majority, and one might wonder why this majority should accept a stringent lockdown. The answer follows from a key idea in Nozickian libertarianism: each person's life must be protected from any harmful behavior that threatens their life. Even if there is variety in susceptibility to severe effects of the virus, behaviors that are harmful to a significant number of people are prohibited. For the same reason, that diversity of the effects of SARS-CoV-2 is no longer the case. From a long term perspective, libertarianism requires an appropriate way to lift or deregulate lockdown measures.

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In the following, we will further examine how lockdowns and related measures deal with the aforementioned diversity as well as with people's liberties in the context of the COVID-19 pandemic from a libertarian perspective. Toward this end, we first need to have a closer look at some details of variants of libertarianism, particularly with regard to the central issue of property rights.

4 | LIBERTARIANISM ON JUSTICE: FROM RIGHT TO LEFT

Libertarianism, originally developed by Locke, comes in a number of varieties, but all of these share three characteristics. First, libertarian political philosophy takes the right of self-ownership as its starting point, and the exercise of this right is, thus, a foundation for all libertarian theories. Secondly, libertarianism puts great weight on the freedom of exchange. Nozick's "Wilt Chamberlain argument" is a famous rebuttal of arguments in favor of policies aimed at achieving some pattern of distribution.20 These first two characteristics reflect Locke's emphasis on the right to life and right to liberty, respectively.

Thirdly, libertarianism involves a concept of justice in acquisition, called "the Lockean proviso." The Lockean proviso is a condition for entitled one to acquire and possess previously unowned goods by expending labor. In its original form, the Lockean proviso holds that we can acquire unowned natural resources when there is "enough, and as good, left in common for others." Nozick interprets this proviso as a principle of justice that allows one to acquire original resources when one leaves enough resources for others or compensates them. By this principle, no one is made worse off than they would be if the acquired resources were used collectively as in a "state of nature." This echoes Locke's argument regarding the right to property.

While libertarians largely agree about the first two characteristics, they interpret the Lockean proviso differently. Right-libertarianism, for which Nozick's theory is representative, interprets it as a "first come, first served" principle, as long as it does not make anyone worse off, but left-libertarians criticize this interpretation because it entails that a single person could be allowed to occupy all of the natural lands if they guarantee other people a meager life. Left-libertarianism holds that natural resources belong to everyone in an egalitarian manner.21 In other words, while right-libertarians interpret the Lockean proviso in a minimal sense such that it merely disallows an appropriator to make anyone worse off than in the state of nature, left-libertarians interpret the Lockean proviso such that an appropriator is required to leave enough so that everyone else can enjoy an equal share of natural resources. (In Michael Otsuka's words, the proviso states that "you may acquire previously unowned worldly resources if and only if you leave enough so that everyone else can acquire an equally advantageous share of unowned worldly resources").

Left-libertarians include Hillel Steiner, Philippe Van Parijs, Peter Vallentyne, and Michael Otsuka. The most influential source of their ideas is Henry George's egalitarian conception of ownership. Left-libertarians conceptualize this with regard to natural resources by means of two different metrics, however. According to the resourcist metric, the value of natural resources is determined by demand and supply in accordance with all people's preferences; according to the equal opportunity advantage metric, or simply the opportunity metric, appropriators are required to take account of each person's accessibility to, and ability to use, natural resources. The main difference between these two metrics is that the opportunity metric is more sensitive to disadvantages that negatively affect people's access to, and ability to use, natural resources, such as a lack of talent.

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20The issue raised here concerns when and how lockdown measures should be lifted. If there is a lot of diversity in the effects of the virus and/or a small percentage of people are severely affected by it, then the unharmed are unlikely to accept a lockdown. With the development and spread of vaccines, the number of (potentially) severe cases becomes smaller, and given that vaccines enable people to acquire immunity, they will be held responsible for their own health risk. Because of this, in a later stage a lockdown may not be permissible anymore, and the timing of the lifting of lockdown measures must be determined (among others) by the degree of diversity and the percentage of (potentially) severe cases. To be precise, if the degree of diversity and the percentage of low-risk individuals (either due to vaccination or to other reasons) exceed certain cut-off points, then lockdown measures should be ended from a libertarian view.

21Nagel, T. (1981). Libertarianism without foundation. In J. Paul (Ed.), Reading Nozick: Essays on anarchy, state, and utopia (pp. 191–205). London, U.K.: Rowman and Littlefield; Cohen, G. (1995). Self-ownership, freedom, and equality. Cambridge, U.K.: Cambridge University Press; Olsaretti, S. (2007). Liberty, desert and the market. Cambridge, U.K.: Cambridge University Press.

22Vallentyne, P., Steiner, H., & Otsuka, M. (2005). Why left-libertarianism is not incoherent, indeterminate, or irrelevant: A reply to Fried. Philosophy & Public Affairs, 33, 201–215.

23Otsuka, M. (1998). Self-ownership and equality: A Lockean reconciliation. Philosophy & Public Affairs, 27, 65–92, p. 74.

24Van Parijs, P. (2009). Maxism recycled. Cambridge, U.K.: Cambridge University Press.

25Steiner, H. (1994). An essay on rights. Oxford, U.K.: Blackwell.

26Otsuka, M. (2003). Libertarianism without inequality. Oxford, U.K.: Clarendon Press; Vallentyne, P. (2007). Libertarianism and the state. Social Philosophy and Policy, 24, 187–205.
or a disability. The corresponding theories are called “resource-based left-libertarian” and “opportunity-based left-libertarian,” respectively.

Despite these differences, all libertarians agree that it is crucial to protect people’s lives, such that they can fully exercise their rights. For this reason, all variants of libertarianism require the minimal state to offer protection against others doing things to them, unless they voluntarily agree with whatever is being done to them. Everything else being equal, if something is harmful, it must be prohibited, and if someone harms people, they ought to compensate those people for the harm done. Beyond this, restrictions of people’s actions by the government can only be legitimate if the following two conditions are met. First, people voluntarily agree with the restrictions. Secondly, their agreement does not violate the Lockean proviso (acknowledging the variety in interpretations thereof). A legitimate agreement can reasonably be made as an exchange in a market regulated in the light of the Lockean proviso.

5 | LIBERTARIAN APPROACHES TO THE PANDEMIC: MARKETS FOR PERMISSION SLIPS

To protect the exercise of self-ownership—the first characteristic of libertarianism—libertarians can endorse lockdown measures, but only if the pandemic poses a tangible risk. However, since lockdown measures severely restrict individual liberties, damage the economy, and negatively affect the physical and (especially) mental health of individuals, particularly of the vulnerable, it is not optimal to completely ban individuals’ outside activities. For this reason, lockdown measures should be accompanied by permission schemes.26 In this section, we will show that libertarianism can accommodate reasonable permission schemes that can be implemented in a society that seeks to mitigate the conflict between health protection and freedom.

Because libertarianism respects the freedom of exchange—the second characteristic of libertarianism—a libertarian approach to permission schemes is to appeal to a market mechanism for the allocation of permission slips. Such a mechanism can uphold individual liberties while minimizing expected damage to the economy and to the physical and mental health of people. However, the different types of libertarianism distinguished above suggest different methods for implementing such market exchanges.

Consider an imaginary city-state with a thousand inhabitants and a small number of asymptomatic carriers. Without any intervention, the disease would eventually spread throughout the population, and therefore the government plans to place the city under lockdown to protect people’s lives. Hypothetically, 20 percent of the population can go out in public without threatening other people’s lives. Hence, if 200 or fewer people go out each day, the risk of spreading infection is kept sufficiently low. The government thus decides to issue 200 permission slips each day. The question is how these slips are to be distributed among the people. According to libertarians, market exchange is the right distribution method, but they disagree about the right way to allocate the slips initially. This difference boils down to the different interpretations of the Lockean proviso.

The first method to be considered here is a centralized online auction for permission slips. In this auction, the government sells a fixed number of slips one by one after publicly announcing the details. (That fixed number is 200 per day in the above scenario.) People who are interested participate simultaneously in the auction, which can take place on a government website or on the website of some agency hired by the government to execute the auction. Each participant makes their bid, and whoever bids the highest value obtains the permission slip. Assuming that the auction is well organized, the distribution of slips is efficient.27 Many types of auctioning mechanisms have been proposed in the auction theory literature. In this case, the individual values of slips are assumed not to be strongly correlated with each other, and thus the second-price sealed-bit auction is a reasonable candidate.28

An advantage of the centralized auction method is that it is financially sound. During a severe pandemic, the government can be expected to face financial difficulties as significant parts of the private sector temporarily need subsidies and medical workers need to be compensated. Hence, the revenue from the auction may be indispensable for the government. A problem for this distribution method, however, is that it might be difficult for vulnerable people to obtain permission slips. Billionaires may place very high bids that cannot be beaten by poor (or even less rich) people. The result could be an unequal distribution of liberties: the rich would enjoy the liberty to go out in the lockdown situation, whereas the poor would not. Although this inequality may be quite extreme, it is not unjust from the viewpoint of right-libertarians, because the results of the auction do not directly worsen the situation of the poor (compared with the pre-auction situation) and all people have the right to participate in the auction. Distribution by auction can be regarded as a practical implementation of a Nozickean interpretation of the Lockean proviso, and thus, this method matches the tenets of right-libertarianism.

Not all libertarians would accept the inequality generated by the centralized auction in this method, however. Indeed, concern about inequality is what leads to a second method, consisting of two steps. In the first step, permission slips are equally distributed among all individuals. This initial distribution is hardly efficient, because there probably are people who prefer to stay at home in isolation, while at the same time there are others who consider the number of slips they

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26Indeed, people in countries where lockdowns have been implemented, such as France, Italy, and China, were allowed to conduct some outside activities with certificates that could be obtained from government websites or by having their body temperatures checked automatically when they used public services.

27Milgrom, P. (2004). Putting auction theory to work. Cambridge, U.K.: Cambridge University Press.

28Under the second-price sealed-bid auction, each person places their bids without knowing others’ bids; the person with the highest bid obtains the item by paying the price of the second-highest bid. This mechanism works efficiently if people’s valuations of the items auctioned are independent from each other; Vickrey, W. (1961). Counterspeculation, auctions, and competitive sealed tenders. Journal of Finance, 16, 8–37.
receive in this way to be insufficient. To remedy this inefficiency, in the next step people can exchange their slips in the market. These exchanges are not necessarily organized by the government; private online platforms or any system can be used for voluntary exchanges. That is, transactions can take place in decentralized markets. The government’s role (after the initial distribution) is merely to protect people’s property rights in this process. Because of this exchange process, if people prefer to stay at home, they can safely sell their slips. In return, they obtain monetary transfers from those who desire to go out more often. Since this procedure takes account of individuals’ preferences, the final distribution of slips is efficient. This is a consequence of what welfare economists call Edgeworth’s limit theorem, which states that the outcome of decentralized markets is efficient if the number of participants is large and property rights are properly protected.29

Notably, all individuals have the same degree of freedom in this method, which implies that a certain type of equality is guaranteed. Moreover, since people voluntarily exchange their slips depending on their preferences, health conditions, and other circumstances, the final outcome is considered equitable, despite the final unequal distribution of slips. This method is aligned ideologically with resource-based left-libertarianism. Specifically, the equal initial assignment corresponds to a resource-based left-libertarian interpretation of the Lockean proviso. Resourceists, for whom Steiner is representative, argue that natural resources must be equally distributed among people initially, and that each person must be able to exercise their right to the assigned resource and voluntary transactions. An additional advantage of this method is that its administrative cost should be relatively low since the government’s tasks are limited to the initial equal distribution of permission slips and the protection of property rights. Since there may be various obstacles to organizing a centralized auction in the circumstance of a pandemic, this advantage could be crucial.

However, this method is susceptible to the same criticism as is often leveled against resource-based left-libertarianism, which only cares about the equality of external resources, a concept that captures the usual resources, such as wealth, money, land, and means of production, but also the permission slips in the current analysis. The criticism is that this method does not fully recognize the differences in internal resources, such as individual talents and abilities.30 In the present context, personal health conditions should be considered a key internal resource. Personal health matters because the vulnerable cannot fully enjoy their liberties—for them, the risks associated with going out may make it effectively impossible to realize anything approaching their preferences. In other words, the 20 percent limitation is not safe enough for the vulnerable. Of course, they can sell their slips in the auction, but money cannot wholly compensate for their involuntary stay at home.

A third method aims to compensate the vulnerable for their greater disadvantage. This method attempts to tackle the problem mentioned in the previous paragraph by substituting an opportunity metric for the resourceist metric. An opportunity metric is a hybrid of external and internal resources. A person with low internal resources is considered less advantaged even if they receive the same amount of external resources as the average person. By this method, the vulnerable would be compensated in such a way that they could gain (much) more money than in the resource-based scheme. In practice, the opportunity metric method can be implemented in the same two steps as the resourceist metric method: the first step is the initial assignment, and the second is market exchange. The first step requires a modification, however, while the second stays unchanged to guarantee efficiency. Since personal health conditions and internal resources cannot be transferred, the compensation for the vulnerable is implemented by adjusting the initial assignment of external resources (i.e., through the permission slips).

One way in which the government could implement such a non-uniform initial assignment of permission slips is the following. Assume that the total number of permission slips to go out on Tuesdays is half of that on Mondays. Because of this, Tuesdays are safer days to go out than Mondays, and therefore someone who belongs to a vulnerable group and who wants to go out might choose to go out on a Tuesday rather than on a Monday. The availability of permission slips for such lower-risk days (i.e., Tuesdays) allows people to choose a degree of risk, thereby increasing their freedom, and helps to satisfy the preferences of the vulnerable, who will try to buy more Tuesday slips. The government could assign more Tuesday slips to the vulnerable, making it easier for them to go outside (relatively) safely. Furthermore, the price of Tuesday slips will be higher than that of Monday slips because the supply of Tuesday slips is smaller and the demand is expected to be higher, and consequently if someone belonging to a vulnerable group sold their Tuesday slip in the market, they would receive a greater monetary transfer (than if they sold their Monday slip). The result of this varied initial assignment involves a more equitable transfer from the rich and/or healthy to the vulnerable, thereby reducing inequality with respect to opportunities and internal resources.

This third method echoes the ideas of opportunity-based left-libertarianism. A key task of the government in the case of the implementation of this method is to initially allocate the permission slips in such a way that all people have equal opportunities. In this allocation, the government takes the different health risks of different people, as well as other relevant social factors, into account. A reasonable implementation of this method protects people’s liberties. A potential disadvantage of this method, however, is that it may take more time to put into effect owing to the complications involved in deciding the optimal initial assignment. Moreover, it may also cause (more) political controversy and disagreement.

29Debreu, G., & Scarf, H. (1963). A limit theorem on the core of an economy. International Economic Review, 4, 235–246; Coase, R. H. (1960). The problem of social cost. Journal of Law and Economics, 3, 1–44; Carter, I. (2012). Left-libertarianism and the resource dividend. In K. Widerquist & M. W. Howard (Eds.), Alaska’s permanent fund dividend: Exploring the basic income guarantee (pp. 123–139), London, U.K.: Palgrave Macmillan.
30Dworkin, R. (2002). Sovereign virtue: The theory and practice of equity. Cambridge, MA: Harvard University Press. To be fair, Steiner proposed the auction of germ-line genetic information as an external resource. This helps to resolve inequalities in internal resources to some degree, if not completely. See Steiner, op. cit. note 24, pp. 247–248.
The permission slip schemes considered in the foregoing are substantially different from common lockdown measures in the COVID-19 pandemic. Typically, lockdowns involve shutting down businesses and closing schools and are not directly associated with permission schemes. However, these common lockdown measures can also be refined by using a permission slip method. Assume, for example, that each store or shop issues a fixed number of tickets that can be exchanged for permission slips. The number of tickets issued by each store is determined by the government in their attempt to control the pandemic. Since business activities are restricted by the number of tickets available to each store, we could call this a quasi-lockdown measure. In this way, restricting business can be combined with a permission scheme. A significant difference between a permission slip scheme like those considered above and more common measures is that the former incorporates incentives through permission slip ownership and exchange, whereas the latter does not. From a libertarian perspective it is important to respect incentives, and this may lead to improvements of some measures that have been used in the COVID-19 pandemic.

Finally, we want to emphasize that considered libertarian approaches can serve as powerful ethical and political benchmarks for resolving urgent crises in public health in general. By using markets, libertarianism can balance efficiency and equality. Furthermore, provided that people’s lives and health are secured, libertarianism fully respects people’s liberties and voluntary actions. These points are crucial in a social crisis. As shown by a series of works by Amartya Sen,\textsuperscript{31} serious crises can occur when people’s entitlement of exchange is not protected (and the crisis becomes more disastrous without democracy). Taking this into consideration, the libertarian approaches become (even) more appealing, especially in the case of (potential) emergency situations that may require restrictions of people’s liberties. The approaches considered here identify what kinds of restrictions are reasonably acceptable and, more importantly, prevent the dysfunction of markets, which can cause additional social crises through deprivation of the entitlement of exchange. Hence, in addition to its other virtues, libertarianism is preferable from the point of view of social stability.

\textbf{6 | CONCLUDING REMARKS}

This study has examined a libertarian perspective on government responses to the ongoing COVID-19 pandemic. In particular, we argued for the legitimacy of lockdown measures, and we showed how libertarian justice could be achieved through voluntary participation in a market mechanism in the lockdown situation. Additionally, we argued that, in contrast to utilitarians, libertarians rightly reject excessive government intervention, such as contact-tracing mobile apps, even if these promote people’s welfare. We believe that libertarianism offers a reasonable resolution for the trade-off between health and people’s freedom in the circumstances of the COVID-19 pandemic.

We proposed three ways of using market exchange to increase liberty during the pandemic. Table 1 summarizes these methods and their outcomes. Each corresponds to a certain concept of libertarian justice. We believe that the third method, which tries to equalize opportunities for all people, is the most appropriate way of dealing with the COVID-19 pandemic—it can secure liberties for all, and simultaneously deliver sufficient compensation for the vulnerable. It cannot be dismissed that the vulnerable tend to suffer from COVID-19 in ways for which they are not responsible, and this method takes that into account.\textsuperscript{32} One key question remains, however: How do we measure these people’s social and health damage? This is a task for future research.

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\textbf{CONFLICT OF INTEREST}

The authors declare no conflict of interest.

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