

Public Choice and Pandemics

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Abstract The coronavirus pandemic has renewed attention of public choice scholarship and public health. Leeson and Thompson (2021) highlight that private interests rather than public ones often influence health policy and that health regulations often have perverse consequences. In related work, they argue further that private property rights reduce the need for government to address complex externalities. This paper argues that they understate the contribution of public choice for public health. Public choice offers insight into polycentricity and coproduction in pandemic policy, the role of mental models in pandemics, institutional tradeoffs that constrain pandemic responses, and the politics of pandemics. Together, public choice offers a coherent perspective for addressing complex global externalities.

Keywords: externality; Covid-19; ideology; institution; collective action problem

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1 Introduction

According to some accounts, the COVID-19 pandemic has made “pandemic economics” into its own field of economics (Galiani 2022). Public choice scholars have seen this opportunity as an opportunity to reflect on the contribution of public choice scholarship for public health, and pandemics in particular. Leeson and Thompson (2021) suggest that one of the silver linings to COVID-19, if there are any, is that public choice scholars will focus on public policies in the context of contagious diseases.

Indeed, public choice has much to say about public health, including pandemics. Leeson and Thompson (2021) see public choice as offering three significant predictions: public health regulations will reflect private interests rather than public ones; that the allocation of public health resources will reflect private rather than public interests; and that public health policies

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will often undermine health-consumer welfare. It turns out that there is a great deal of research that supports these hypotheses. In another significant contribution, Leeson and Rouanet (2021) argue that with pandemics, negative externalities are often less severe than conventional economic analysis suggests. They explain that because infectious diseases are self-limiting, businesses have incentives to control externalities, and that the social costs of avoiding externalities are generally low, the case for suppressive measures to deal with complex externalities is not as strong as many economists and public health experts would think.

The research on private interests has offered much insight into disease politics. Yandle's (1983) bootleggers and Baptists model considers that interest groups often align when they disagree on other issues and that neither moral prompts nor campaign contributions are enough. Thus, you get strange coalitions. Bootleggers provide the political support (from profit from restrictions), and Baptists provide a moral foundation for Blue laws regulating alcohol sales. Gelooso and March (2021) argue that the dramatic expansion of institutionalization of mentally ill in the United States around 1900 was not as a consequence of public health demands but rent seeking by psychiatrists who saw this as an opportunity provided by greater involvement of the government in people's lives.

The public choice perspective has significant implications for pandemic policy. In an important statement of the macroeconomics of pandemics, Eichenbaum, Rebelo, and Trabandt (2021) write down a model that shows that when people reduce risks from disease through lockdowns, epidemics are less severe but the associated recession is exacerbated. The competitive equilibrium without drastic measures is suboptimal because people do not fully internalize the effect of economic decisions on the spread of the virus. They conclude that containment policies save lives but at the cost of increasing severity of recessions. If we take Leeson and Rouanet's argument seriously (as we should), macroeconomic models such as this, because they do not explicitly consider that private property institutions create at least some incentive to internalize externalities from pandemics, overstate the benefits of economic lockdowns.

The above are enough to show the clear contribution of public choice to pandemic economics. In this paper, we argue that the above insights have only scratched the surface of public choice's contributions to pandemic economics. Part of the reason is that the above mentioned research has not yet considered explicitly the contributions of Elinor and Vincent Ostrom's research, which is significant in the public choice tradition for its emphasis on concepts such as polycentricity and co-production (Herzberg 2015). There is much more beyond this.

Our stock-taking highlights the following. First, public choice provides insight into why polycentric responses to pandemics are more appropriate than centralized ones. This is based on the nested-ness of pandemic externalities, as well as on epistemic justifications based on uncertainty about how to respond to pandemics. Second, public choice shows pandemic responses involve coproduction. Third, public choice recognizes that mental models – and hence beliefs and ideology – influence pandemic policies. Fourth, pandemics require thinking of institutional tradeoffs, especially those involving economic and political freedoms. A fifth contribution is that pandemics will lead to the same sorts of problems predicted by public choice for any crisis: corruption, ratchet effect, erosion of individual liberties.

In what follows, we consider each of these points in depth. We also consider areas for future research where public choice can further inform our understanding of complex pandemics. We then discuss some of the lessons.

2 Polycentricity and Pandemics

What level should government intervene with pandemics? The usual economic approach to externalities is that the government will intervene to correct them. Why government? Olson (1965) explained why, though the ideas were readily apparent in Adam Smith's writings. Individuals will free ride on public goods provision as long as the group has enough members. Thus, governments provide public goods. They also address externalities. Though Coase (1960) showed that individuals can contract to address externalities without government, large groups imply large transaction costs. Thus, we typically rely on government to address externalities, especially complex ones like a pandemic.

There are some issues with such a perspective. Costs of intervention must be considered, as addressing externalities is costly. Hence, it may be better to leave externalities, once one considers transaction costs of addressing them (Zerbe and McCurdy 1999). And the insight that public goods shows that decentralization can improve the provision of public goods, as it increases the fit between what citizens want and what the government provides (Epple and Zelenitz 1981).

With pandemics, externalities are often presumed global, and hence more centralized responses – rather than local solutions, as suggested in public choice analysis. Nor is there much analysis of the costs of intervention, compared to with other externalities.

Polycentricity makes this more explicit. Polycentricity involves multiple units interacting in heterarchical fashion (V. Ostrom 1972). Autonomy is critical – decentralization may involve implementation locally, but lack of autonomy (Eusepi and Wagner 2010). The problem is not only figuring out the best way to resolve them. With pandemics, externalities are nested. The problem differs, depending on local conditions. This requires a polycentric response.

Paniagua and Rayamajhee (2021) discuss a polycentric approach for pandemic governance and highlight the importance of co-production across multiple scales. They suggest a polycentric approach as the bridge from the micro to the macro (national, global, etc.) level. A global pandemic leads to a global scale collective action. Or even some countries nearly completely closed their borders, like China and New Zealand, it is still a national level collective action problem. Paniagua and Rayamajhee (2021) argues that since co-production is important in pandemic response, a centralized approach is insufficient.

Public administration scholars recognize that pandemics bring inconsistent, unpredictable, and uncertain events that require adaptive, agile and pragmatic responses (Ansell et al. 2021). The issue is that these are complex, nested externalities – and so the appropriate response is polycentric.

Beyond the nested-ness of externalities, there are two reasons for polycentric responses. One is uncertainty about policy response. Pennington (2021) emphasizes that these knowledge

problems should inform pandemic response. With pandemics, it is not always clear what menu of policies are appropriate. Hence, polycentrism enables experimentation with policies.

Another is expert failure. Experts often fail, miserably so (Koppl 2018). This has been a recurrent theme with pandemic policies. When coronavirus first began to spread, public health officials initially pushed for washing hands. Then they pushed for masks. Once the vaccines were developed, they relaxed incentives. The combination of expert failure, along with general policy uncertainty, provides additional reason for a polycentric response.

One area where this has not been addressed fully is by considering quasimarket failures. Still, local governments can fail as well. Quasimarkets are often proposed as a solution to government failures, but they too can fail. Boettke, Coyne, and Leeson (2011) argue that what is most significant is to consider why quasimarkets fail, if they do fail. Such analysis applies Demsetz' (1969) Nirvana Fallacy to the debate over consolidation. It is relevant to pandemics, as one aspect of polycentrism could involve more opportunities to use quasimarkets to address challenges with pandemic disease. There is also the more general recognition that local governments may fail too since they are above all a government and not beyond the realm of government failure. These perspectives suggest the importance of considering government failure at multiple scales, comparing them, and then considering, where quasimarkets are developed to address pandemics, comparing those solutions to government solutions (again, at multiple scales). Such an analysis would provide for a truly comparative institutional approach in the tradition of the new comparative economics, which has as one of its defining features consideration of the consequences of different political institutions (Boettke et al. 2005).

3 Coproduction and Pandemics

Governance of complex externalities like public health crises like pandemics requires coproduction. Coproduction involves citizens, private organizations, and public organizations jointly determining the supply of public goods and services (Parks et al. 1981). Provision of public goods and services includes design of programs and policies, management of those policies, implementation of services, and, if there is an opportunity, the evaluation of those services. Coproduction – shared decision-making, with no single group determining the outcomes of collective action. On readily known example of coproduction is policing services – neighborhood policing is coproduced, and neighborhood policing works better than centralized, in part because it enables coproduction more effectively (E. Ostrom et al. 1973).

As Paniagua and Rayamajhee (2022) explain, public health measures such as social distancing and mask mandates involve co-production in that such public goods are the joint product of governments, private and nonprofit organizations, and individuals. Social distancing requires cooperation among individuals – those who go along are doing so in part to provide social benefits, at personal cost – but it is also a complex political challenge, as the ultimate production of those goods is a joint effort. Thus, one can identify complex externalities, but there is no reason to assume the solution is government; the solution is always a joint product of government, individuals, and organizations, including the third sector of voluntary and nonprofit organizations.

This offers a normative framework to assess pandemic responses. Have relevant beneficiaries of public services been included in the design of programs? With COVID-19, mask mandates and policies such as vaccine mandates have often been implemented, but such programs differ substantially in their details. Since they require many individuals to participate, and many benefit, this suggests inclusiveness will improve prospects for pandemic management.

Public administration scholars suggest an area for improving our analysis of coproduction with pandemics. Li (2020) points out we therefore need to consider information asymmetries in promoting successful coproduction and public health outcomes. Information asymmetries between individuals and government adversely affect coproduction: individuals may not understand the need for coproduction or how to do it, and public organizations may not be able to motivate people. A consequence could be declining trust in public organizations. Li's central conclusion is that governments can use information intermediaries, such as experts and volunteers, to increase information credibility that could reduce the degree of information asymmetry and improve coproduction.

One way public choice may extend this is by asking the following question: why would government provide such information? And if they do, why would they provide truthful information? Much left to be done on the design of communication protocols and how to address the mechanism design problem.

4 Mental Models and Pandemics

Public choice analysis of public health can be extended in its insights by considering how ideology and mental models influence public policy responses to complex pandemics. Beliefs, including ideology, have a significant impact on what people do, including how institutions change (Leeson 2020). As Denzau and North (1994) put it, "people act in part upon the basis of myths, dogmas, ideologies and 'half-baked' theories." Denzau and North (1994) put forward a conceptual model as "(shared) mental models," pointing out the cognitive nature of institutions, ideologies, and other shared mental models. Greif and Mokyr (2017) argue that institutions must be based on cognitive rules, which have to be self-enforcing and self-correcting but do not have to be "correct." Related, Petracca and Gallagher (2020) highlight the dynamic pattern of cognitive institutions and stress the importance of cognitive "process," suggesting that the "shared" of "shared mental model" notion in Denzau and North (1994) means the learning process of an agent from other agents in a social environment.

Frolov (2022) points out that the products co-produced during the pandemics are mostly preventive measures. He stresses that the Ostromian "crafting institutions" should also be paid attention to when analyzing pandemic governance co-production and proposes the "crafting cognitive institutions." Paniagua and Rayamajhee (2022) respond to Frolov (2022) and delve deeper on this topic and discuss the co-production of shared mental models. This research highlights co-production of cognitive institutions, including the significance of crafting cognitive institutions. An implication is that there must be more attention to shaping the mental models of actors.

One way to extend this research is to see shared mental models can be divided into different layers: ideology is a deep layer or core mental model. Institutions, either as the rules of games or expectations of agents, mostly put agents in a relatively passive role as agents choose their actions based on the rules or expectations. Indeed, the reason why institutions matter is in part because any individual cannot change them. One expects agents can to an extent change and adapt their ideologies.

In the last years, the polarization of U.S. political ideologies has been climbing. “All men are created equal” is rooted deep in the heart of most American citizens, while people with different ideologies have different beliefs when it comes to different details. A person, who uses “Don’t Tread on Me” as his personal slogan, deeply believes that no one on the planet earth should enforce anything against his free will, including vaccines and mask mandates. Good-quality masks (e.g., N95 masks) work when they are properly worn, and the two mRNA vaccines are proven to be safe and effective for most people. But due to disinformation, superstitions, religions, etc., this person has updated his belief system to reject mask and vaccine mandates. Without knowing Novak Djokovic’s specific political ideology, the tennis star (though who is not American) is quite a good example for illustration. He claimed that he is not anti-vaccine, and he rejects vaccine-mandate and believes it is a personal choice. Another person, who also believes the personal freedom, may view mask and vaccine mandates necessary to create a free society for all. In this person’s ideology bundle of beliefs, there is no absolute freedom; rather, to ensure a good outcome, the society, i.e., the agents within the same society, need to sacrifice certain choices.

The beliefs a person holds are complicated and interwoven, not only within the beliefs but also with other mental models. Only a certain bundle of beliefs is of their ideology. The ideology bundle of beliefs for this person is being actively updated with new information coming in, also the “shared” part of shared mental models highlights the learning process from other agents too. However, an ideology is not about what an agent expects others to do in certain scenarios but rather a deep level structure – on how they interpret the social relationships around them and/or what they think the other agents should do to achieve certain goals.

Institutions do not touch the core mental model of an agent. As discussed above, the mask and vaccine mandates in certain jurisdictions issued by their governing body, in the forms or rules, policies, laws, etc., are an externalized form of institutions. What outcomes for their actions the agents expect, in a society with these certain rules, policies, laws, etc., are the other way to view institutions. However, a certain action an agent is going to make, is based on these rules and expectations, without the core cognitive process of referring to their own ideology. Institutions shapes what agents do and may even influence their ideology, but institutions are only ingredients of the cognitive process but not the mental model per se.

As North (1981) highlights, a successful ideology for economic prosperity of a society needs to be able to address collective action problems. To some extent, collective action problems are cognitive in nature. For certain groups of people believing the Covid-19 is just a (big) flu, there is not any collective action of ending the pandemic they are play in, thus there is not such a problem for them to address. For the people whose ideology features absolute individualism, no such collective action is desired. Of course, every economic action comes with an opportunity cost, and wearing masks and taking vaccines are no exceptions either. For individuals, it is easier to calculate the marginal benefits versus marginal costs. Benefits and

costs are subjective, and no certain central planner can have an exact estimation of whatsoever social welfare (Hayek 1945). In particular, as Mises pointed out, freedom is inseparable. For many people, being alive is most valuable, and they are willing to undertake whatever trade-off it would need to stay away from the severe and highly contagious disease (Covid-19 had a 2% fertility rate at the beginning). For many others, they indeed live the way “give me liberty, or give me death!” These diverse ideologies made agreement on formal rules or information expectations challenging.

Leeson (2020) argues that beliefs influence the process of institutional change. Indeed, the main contribution of mental models is to put this aspect into the process of institutional change, in this case with pandemics. Such perspective move beyond the basic association of partisanship with disease. According to political science research, partisanship (party ID, support for Trump, position on left-right ideological spectrum explains policy preferences over health, even when considering individual news consumption, local policy environment, and local deaths from pandemic (Gadarian et al. 2021). But as the above suggests, the relationship between mental models and pandemics is complex. By considering more carefully mental models, public choice can offer additional insights in this area.

5 Institutional Tradeoffs and Pandemics

North (1990) highlighted the essential role of institutions on economic performance. Institutions, especially those contributing to economic freedom, are associated with higher incomes per capita. economic freedom, which includes an orientation toward personal choice, voluntary exchange, freedom to compete, and protection of personal property (Gwartney et al. 2018). Economically free institutions create an infrastructure for voluntary exchange and protection of property.

An important question is how economic freedom, economic development, and public health relate (Bologna Pavlik and Geloso 2020). One approach is to consider health as a form of human capital (Bleakley 2007). When people are richer, they are more likely to be healthier. Hence, public goods are expected to contribute to wealth, as is suggested by the state capacity literature (Piano 2019).

Missing from such analysis are tradeoffs within institutions. Troesken (2015) considered the issue of disease burden in US economic history. Some diseases like malaria depend on investment in public goods, such as sewers. One of the significant contributions of infrastructure investment was to largely alleviate diseases such as malaria, and typhoid fever. These investments, as Troesken explained, were constrained by economic liberties, as they reduced the ability of government to address complex externalities. Hence, he concludes that a pox of liberty is less ability to deal with disease.

Geloso, Hyde, and Murtazashvili (2021) argue that Troesken’s view is more nuanced in that it recognizes that there are differences in diseases of commerce and diseases of poverty. Diseases of commerce are those which are highly contagious, such as coronavirus. Diseases of poverty are those which can be eradicated through investments in large-scale public goods, such as malaria or typhoid fever, each of which depend in part on presence of quality sanitation systems (sewers, etc.). Since water-borne diseases depend on public infrastructure, they are

likely to depend on economic freedom: freer societies may be more immune from diseases of poverty, because they are richer.

This is significant for pandemic diseases like coronavirus. Such diseases are associated with commerce, as modern economies involve interactions among people. In such situations, the institutional bundle that produces economic freedom contributes to wealth, which contributes to less diseases of “poverty,” but increases burden of diseases of “commerce,” such as highly communicable diseases. Geloso and Murtazashvili (Forthcoming) considered this empirically, showing that economic freedom contributes to more burden of disease. However, they note in subsequent work that economic freedom, while contributing to short run vulnerabilities to pandemics, can increase ability to fight disease because of wealth effects, including through technological progress. Thus, some moderation is necessary for Troesken’s hypotheses about the pox of liberty: even for pandemic disease, economic freedom likely has benefit, but because it contributes to long-run economic growth. Empirically, there appears to be such tradeoffs as economic freedom increases severity of several pandemic diseases (Geloso et al. 2021).

6 Pandemic Politics

The rich public choice literature on crises offers insight into pandemic politics. In the aftermath of Hurricane Katrina, public choice scholars wanted to understand why a hurricane resulted in so much death and destruction (Boettke et al. 2007). Public choice especially offered insight into the government failures with crises (Sobel and Leeson 2006). Similar to this work on public health, they began by observing that public choice may not be the first place one looks to understand crisis response, but it should be. The Katrina Project produced a wealth of knowledge about crisis response, including that increasing assistance from the federal government often makes citizens worse off (Leeson and Sobel 2008) and that the pace of reconstruction reflects social capital in communities (Chamlee-Wright and Storr 2009), including how community narratives influence perceptions of what government can and should do in pandemics (Chamlee-Wright and Storr 2010). Another issue with crises is the ratchet effect – once government increases its capacity, it is challenging to take it away (Holcombe 2019).

The implications for pandemics are as follows. One is that the large increase in expenditures is likely to result in increases in corruption and fraud. This much was clear from the pandemic lockdown policies, which led to a tremendous increase in fraud. Part of the politics of pandemics is the expectation that the response will involve substantial social costs. Thus, one important area for research will be to see how the pandemic responses, especially the most severe, corresponded to fraud and corruption.

Another is that the response to pandemics is likely to depend not only on government intervention, but on feature of communities, including their social capital. One of the presumptions of government, especially the public administration tradition in the Woodrow Wilson School, is that centralized responses and effective management will improve public policy outcomes. Such a view ignores the most significant aspect of the Ostromian approach, which is that communities can be a virtue. This is also an aspect of politics: politicians tend to see government as better able to solve problems than communities themselves.

Finally, the ratchet effect is likely to contribute to additional challenges with liberties, and restrictions that continue even if they are unnecessary. Political scientists have long been concerned with this path dependence (Pierson 2000), though economists have considered this as well (Knight and North 1997). But perhaps more than any other, Higgs (1989) emphasized this ratchet effect. Public choice simply reminds us that it is always a threat when we are dealing with crises. This does not mean the opposition to any masks or any vaccine mandates are justified. Rather, it suggests that it is likely that the choice of regulations may reflect previous choices beyond what is justified by an efficient perspective or even from a public health perspective.

7 Lessons

Leeson and Thomson (2021) discerned several lessons from public choice, discussed above. But they did not consider polycentric governance, coproduction, and several other areas that come into play with complex externalities like a pandemic. To that, we add several, most of which are accomplished by a deeper appreciation of the Ostroms' institutionalism, and insights from public-choice oriented research on institutions. We consider three of those lessons here.

First, complex externalities do not necessarily require a centralized response, even when those externalities are global in scale. In fact, the global scale of pandemics, if anything, implies more of a need for polycentric responses. And while it has not been our focus, one could also use the public choice analysis of anarchy to analyze whether greater centralization would be efficient. As Leeson (2006) explained, such analysis would involve consideration of the benefits from greater centralization alongside the costs. Even if one argued for a more centralized response to pandemics – imagine a world government with the ability to implement pandemic lockdowns – the costs of establishing that would be prohibitive, and the benefits of that would not even be clear, as even the strictest lockdown nations were unable to control the pandemic. Polycentricity is not only appropriate, but if we consider the costs of implementing anything else, it would likely be efficient as well.

Second, mental models are a significant aspect of pandemic policy. Research on coproduction considers the possibility that policies depend on beliefs. However, it does not explicitly consider mental models as a source of collective action. Ostrom (2000) linked this to collective action in nothing that collective action depends on a group's boundaries, which may be "marked by symbolic boundaries and involve complex rituals and beliefs that help solidify individual beliefs about the trustworthiness of others" (149). Even things like superstitions – scientifically false beliefs – can be socially productive and can explain phenomena including facilitating collective action (Leeson and Suarez 2015). While it may be the case that some false beliefs can serve beneficial purposes, with pandemics, they undermine collective action, such as mask wearing and vaccinations. They can also contribute to opposition to any intervention, in part because ideologies and beliefs may mask information about the benefits of coproduction or polycentricism in responding to complex externalities. However, for pandemic disease, it is less likely that beliefs would contribute in this way. Rather, they are expected to be a significant cost. In addition, false beliefs and ideology serve as an additional barrier to incomplete information, as well as may serve as a lens through which information is interpreted. If cognitive models and maps are a challenge, then policies to address those institutional barriers may be necessary. This

moved beyond the desire to provide people with information to better understand the ways in which information is filtered through people's cognitive lenses.

Third, one of the most significant implications of public choice is that pandemics are, above all, a crisis. As such, there is reason to believe that pandemic responses will have a host of collateral costs: corruption and loss of liberties are a few of the more significant threats. This too is left out of the standard macroeconomic models of pandemics referenced earlier. One can write down a model that shows that there is a suboptimal equilibrium because of disincentives to control externalities (which is recognized as the classic rationale for intervening in the Pigouvian tradition as well), but the reality of politics is that once extreme measures are chosen, they tend to stick around.

8 Conclusion

Public choice has always been concerned with government. It also informs public administration, with its questioning of centralized solutions to policy challenges (Aligica et al. 2019). This is especially important with pandemic policies, where centralization arguments tend to have more policy weight. It is often presumed that complex externalities such as pandemics require it. Economists seem to be more willing to accept government intervention here, even if they recognize the significances of markets and limits on government in other areas. It is almost as if with pandemics, everything is different.

Public choice emphasizes that the tools of economics do not change, nor do the implications of economic thinking, because we are dealing with a pandemic. If anything, clear eyed public choice analysis is even more important with pandemics, as that is exactly the realm where we may be more willing to accept more government intervention.

What is gained from a public choice perspective? Economic lockdowns and mask mandates may not have as much justification as we think. And the centralized responses to pandemics suggested by standard economic analysis of externalities says little about how to respond. The public choice of Elinor and Vincent Ostrom, however, has much to say responding to pandemics. A public choice perspective on pandemics centers polycentricity, coproduction, information problems, institutional tradeoffs, and the threat posed by pandemics to liberties. Public choice also has a role for mental models, which can lead to increased transaction costs of implementing "good" public health policies. In sum, if one is interested in pandemic economics, public choice is a good place to start.

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