RESEARCH

Institutions, Trust and Responsiveness: Patterns of Government and Private Action During the COVID-19 Pandemic

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Why have countries responded differently to the COVID-19 pandemic? We explore the role of institutions in shaping the response of governments and citizens to the progression of the disease, both conceptually and empirically. We document a puzzling fact: countries with "good institutions" – strong executive constraints, the holding of free and fair elections and more freedom – tend to have performed worse during the initial phase of the pandemic. They have been slower to implement a lockdown and experienced a larger death toll. On the other hand, countries with higher interpersonal trust and higher confidence in government appear to have fared better. We find limited evidence of differences in mobility reduction by citizens based on institutions in their country.

Introduction

The COVID-19 pandemic has thrown into sharp relief questions about government and citizen responsiveness to the greatest global health crisis in more than 100 years. The pandemic has led to a series of unprecedented policy measures – ranging from lockdowns to government-funded furlough– and requests for citizens to suspend their normal economic and social interactions to limit the spread of the disease. In this article, we examine how different governments and societies have responded to this challenge, and what factors determined effective governance during the pandemic.

There is powerful received wisdom that effective governments, at least in terms of economic success, are those that are constrained by institutional arrangements and that promote people's basic liberties.[1] Thus we would have expected that high-income countries in the Western world, with their open societies and democratic institutions, to be well-placed to fight the pandemic, and that effective public action would flourish where there is accountability and open debate. This expectation is rooted in the fact that such governments have better incentives to assess health risks and the capacity to undertake policy initiatives needed to halt the spread of the disease. This view was confirmed by a global assessment of health capabilities in 2019, which placed the United States and the United Kingdom among the countries best prepared to address pandemic diseases.[2]

There is a compelling logic linking a government's preparedness and responsiveness to health crises with their pre-existing institutions and state capacity. State capacity, which we use to refer to a state's ability to implement a range of policies, tends to be more developed in countries with more cohesive institutions, i.e. those which facilitate reaching a policy consensus across a range of issues.[3] When it comes to deploying those capacities, we expect effective public action to flourish where there is accountability and open debate. Greater capacity should also build public trust which further facilitates compliance with public health measures.

But for believers in this conventional wisdom, some features of the pandemic are puzzling. As **Figure 1** shows, high-income countries and those with more individual freedoms have generally fared *worse*, not better, than countries without civil liberties and/or with lower incomes. This seeming incongruity warrants debate and discussion.[4]
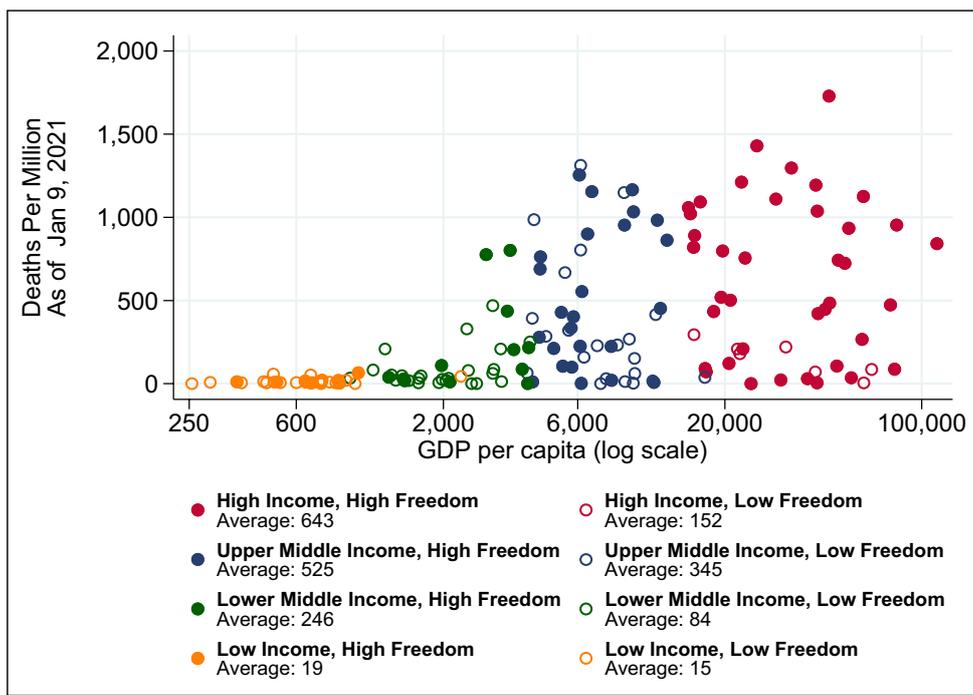
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[1] On the role of inclusive institutions see [1]. The role of freedom is explored in [14]. For a discussion on the link between trust and growth, see [2].
[2] See https://www.ghsindex.org/.
[3] See, for example, [9].
[4] [12] has made a similar observation about the relationship between income and the severity of the pandemic.

Figure 1: COVID-19 Deaths per Million by Income and Freedom Status, as of January 9, 2021.
Source: Authors' calculation using data from John Hopkins' University, and country classification from V-Dem and Freedom House. *Notes*: We measure individual freedom as an index of the Freedom House aggregate freedom score, the strength of executive constraints, and access to free and fair elections using a principal component analysis. Countries classified as high freedom have an index score above the median.

Early on in the crisis, Francis Fukuyama made the following conjecture:

> "When the pandemic subsides, I suspect that we will have to discard simple dichotomies. The major dividing line in effective crisis response will not place autocracies on one side and democracies on the other. Rather, there will be some high-performing autocracies, and some with disastrous outcomes. There will be a similar, though likely smaller, variance in outcomes among democracies. The crucial determinant in performance will not be the type of regime, but the state's capacity and, above all, trust in government.... In a democracy no less than in a dictatorship, citizens have to believe that the executive knows what it is doing."[5]

This claim dovetails with extensive literature within political science showing that the trust of citizens in their government, and the legitimacy that trust imbues it with, aids the effective functioning of government. Within free and democratic countries, an effective response to the pandemic requires the cooperation of citizens given the government's lack of coercive power. Levi coined the term "quasi-voluntary compliance" to emphasize that effective states require the support of their citizens, and more recently she emphasizes that this is most likely to work well where citizens are bound together in a "community of fate", where mutual and reciprocal obligations create societal trust. [20, 21].

We define responsiveness to COVID-19 in terms of how information about the severity and progression of COVID-19 – measured by infection and mortality rates – translates into public and private actions. Public actions have taken many forms, such as the forced closure of businesses, prohibition of social mixing and confinement of citizens to their homes. Other policies have also been introduced to mitigate the economic fall-out, such as tax rebates for businesses, guaranteed loans and the furlough scheme for workers.[6] At the same time, states have invested vast amounts into public health, both in order to sustain frontline work and to find a long-term solution through the creation of vaccines. Alongside these measures, citizens have undertaken private actions to protect themselves and each other, at times under state direction, such as wearing face coverings, physical distancing, and curbing social interactions, especially with vulnerable people.

Here, we will look at these issues by exploring some broad trends emerging from different experiences across countries, considering the full gamut of states, from liberal democracies to illiberal autocracies.[7] As we shall see, the picture is nuanced. We find that, even after controlling for income differences, countries with stronger democratic institutions

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[5] https://www.theatlantic.com/ideas/archive/2020/03/thing-determines-how-well-countries-respond-coronavirus/609025/.
[6] For instance, the CARES act provided a one-time transfer $1,200 to a majority of single adults who filed a tax return, and more to families with children in the United States.
[7] See [8] for a study of the determinants of public and private responsiveness in the United States, and [23] for some background discussion from the prior literature on combatting pandemics drawing mainly on evidence in the developing world.

have tended to perform worse. We begin by reviewing some of the main ideas that underpin public and private responses. We then present some evidence on how the pandemic has developed in countries with different characteristics. Finally, we look at a measure of public and public responsiveness – respectively, the introduction of lockdowns and changes in mobility reflecting citizens' responses to the pandemic – to see how these may reveal the factors that might be shaping how the pandemic has taken hold. The aim is only to offer a broad overview, with much more in-depth study needed to understand these patterns.

The Logic of Government Action

Throughout the pandemic, governments faced difficult decisions on how to restrict economic activity to reduce contagion, with the most challenging being the decision to lock down sections of the economy, and for what period of time.[8] If governments implement lockdowns effectively, they can offer significant social benefits and save lives. If they are poorly timed or not well-implemented, not only do they not meet their objective of curbing the spread of the disease, but they can also erode trust in government. Ultimately, designing and implementing lockdowns requires judgement calls, and it is therefore unsurprising that there was an absence of consensus, within society as a whole and among experts, on the merits of economic lockdown and the form it should take. This is particularly so given the unprecedented nature of the crisis and the absence of relevant evidence from past experience to guide decisions. While models and predictions can play a role in justifying policy,[9] they often rest on strong and untested assumptions.

It is ultimately the role of politicians to adjudicate conflicting views, to decide on what the most effective course of action is to resolve the crisis, and to implement this course of action. One of the foremost debates has been how to weigh up the economic costs of lockdown – and all the consequent harms that entail – against the benefits received in the form of reduced infections and deaths, as well as the continued functioning of the healthcare service. This often meant restricting access to health care for other conditions to support COVD-19 patients. There is, unfortunately, no strictly scientific way to make such decisions, which are instead ultimately rooted in normative values and ethical stances. Instead, while there is a role for expert opinion and technical judgement, it remains relative and limited to the laying out of potential options rather than to selecting specific policies. This is particularly true for crises such as COVID-19 where there are distributional consequences involved across income, region, gender and generations.

Governments have made these choices amid huge uncertainty about their consequences, both in terms of the effectiveness of policy and the population's willingness to comply with restrictions. Moreover, the efficacy of policies depends upon the population's levels of compliance. As such, communication of the objectives of the policy and the reasons for its introduction are often important, particularly when citizens are being asked to voluntarily (albeit with some oversight by government authorities) incur private costs. The efficacy of the government's communications strategy is therefore integral to the success of policy.

But while a competent communications strategy is crucial for success, it is unlikely to save policies that are entirely discordant with public opinion, particularly with rival political parties and public commentators eager to take advantage of any political vulnerability. As such, political considerations must also factor into the decision-making process.

A stylized representation of government behavior in the pandemic is to imagine that at each date during the pandemic, the government chooses whether to introduce, maintain or tighten the lockdown measures in place to limit the spread of the disease. These real-time decisions need to be made while imperfect information is emerging about the disease, and while bearing in mind that compliance might be imperfect, especially if government advice is not trusted. This is a challenge both when the lockdown is being tightened and when it is being loosened. Due to uncertainty about the true risk of the pandemic, citizens will respond both to government actions and to other available information, such as the death or hospitalization rate. As a result, government action will serve to coordinate private actions and convey information about the severity of the disease in ways that encourages citizens to comply.[10]

Another aspect that bears on public action are international comparisons. Governments are frequently benchmarked against each other, both in terms of the nature of the policy and its efficacy, as a "political yardstick".[11] The rapidly escalating crisis in Italy likely influenced the policy thinking of other western governments at an early stage of the pandemic, while Sweden's *laissez-faire* policy was of significant interest – albeit until they also adopted a lockdown-style approach relatively late in the pandemic.

The extensive use of yardstick competition goes to the heart of debates about democratic effectiveness. But when making comparisons across countries to create a benchmark, there is a question of how far citizens make allowances for the political system in place elsewhere. For example, in comparing the response of democratic and non-democratic government, it is not just the policy response that may differ but also the context in which policy is made. Democracies demand transparency and have checks-and-balances for good reasons and citizens may be reluctant to see such constraints set aside even when policies appear less successful than those in other countries.

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[8] See [10] for a review of the issues with a particular focus on the UK experience.
[9] For instance, most governments relied on the Susceptible-Infectious-Recovered (SIR) model for predictions.
[10] A more detailed framework of government action during the pandemic is presented in [7].
[11] See, for example, [6] and [24].

The Logic of Private Action

The pandemic has required citizens to act contrary to their private interests, foregoing social interactions and with some experiencing a loss of income. Such actions have been in part motivated by solidarity and the need to cohere with the norms of group behaviour, but also by the threat of sanction from the state. Ensuring that citizens comply with regulations is, however, not a novel problem for the government. It is an issue for policies ranging from tax collection to speed limits, policies that tend to require some voluntary compliance, even if sanctions lurk in the background.[12]

For many of the actions required of citizens in the pandemic, they provide collective benefits while imposing private costs. By restricting their mobility or wearing a mask, citizens are being requested to act against their own immediate self-interest in pursuit of a greater public benefit. Classical economic analyses of such actions, such as [22], have stressed the potential for free-riding, particularly where self-interest dominates an individual's motivations and they refuse to act in pursuit of the greater good. However, as we discuss below, the pandemic has shown that many citizens are willing to overlook their immediate self-interest in favour of the community's long-term interests.

There are a number of reasons why complying with measures to limit the spread of COVID-19 is costly for citizens. First, there are personal inconveniences, such as disruption to daily routines and social interactions. Second, there are changes in consumption patterns, such as not eating out or not attending cultural and social events. Third, there is disruption to earning and learning. In terms of how the government has sought to offset these costs, its policy has mainly focused on the third limb, attempting to reduce the costs associated with lost earnings for individuals through the furlough scheme, and through policies like guaranteed loans, and rent and tax deferments for businesses. For the other costs, emphasising that those faithfully following the rules promotes the public good can help, but is unlikely to meaningfully offset the harm of the policies. This sense of a collective public good is also likely to be diminished by the unequal circumstances with which citizens face the challenges of the pandemics, with the burdens falling disproportionately on the young, the poor, and some minority groups.

Despite these costs, individuals at large do often respond positively to such exhortations from the government, prioritising their community's interests over their individual interests. There are a variety of theories that seek to explain such public spiritedness. One interpretation is to view these as acts of altruism, where an individual is motivated to behave this way because of the benefits that are generated for others. Others may be motivated to act out of reciprocity.[13] This reciprocal expectation has two forms. The first is a positive reciprocity where an individual is willing to do something positive in the expectation that others will reciprocate the positive act. For instance, this view is manifested when believing that wearing a face mask will signal a positive expectation to others that they should also do so. A sense of trust in the motives of others and their willingness to reciprocate therefore encourages compliance with pro-social actions.[14] The second form is negative reciprocity, where individuals act out of fear of public censure, with the concern that they will be punished for failing to comply with pro-social actions outweighing their reluctance to participate in the action. Wearing a face mask is then done to avoid censure, rather than to motivate others.

But underpinning such actions must be trust in the authority dictating the rules. Citizens rely on the government to give guidance on pro-social actions, and in particular on the extent of the sacrifice that is required. This is something which can fluctuate, as it has done during the pandemic. A lack of trust in the government could leave citizens unpersuaded that the government is weighing up the costs and benefits in a reasonable way and so that undermines compliance. As such, compliance is likely to be strongest where citizens have trust in what their government is doing and so willingly consent to its requests, rather than complying out of a fear of punishment. This was the approach broadly taken by Sweden at the beginning of the outbreak. Making this credible may sometimes require the threat of formal sanctions, although for the most part, there has been a general reluctance to encourage heavy-handed law enforcement, with most western governments favouring the ideal of compliance via consent.

Consequently, it can be seen that the public and private actions are interdependent. This creates the potential for either a virtuous or vicious circle. If trust is high, governments can rely on communication and prosocial motivation, rather than the threat of sanction. This, in turn, is likely to aid the efficacy of the government policy, and so grow support for the government and trust in future communications. If trust is low, the situation is reversed, with sanctions necessary, compliance lower, and the policy's efficacy reduced, in turn diminishing support for the government.

Ensuring that the population has faith in the government and in each other is therefore arguably integral to the success of the government's response to a threat such as the coronavirus. It is tempting to believe that positive reciprocity, as a deeply ingrained cultural attribute, drives much of the pandemic response. Yet levels of trust in the rest of society vary widely across different cultures and different nations, and although there is a consistent positive correlation between higher levels of trust and good economic outcomes, if it is not clear in which direction the chain of causality travels [3].

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[12] See [18] for discussion of this issue in a UK context during the COVID-19 crisis.
[13] See, for example, the discussion in [15] and [13].
[14] A recurring theme in the literature that public responses depend on clear communication and trust, for example, [5, 16, 25, 26, 28, 29]. Trust in science and government together with higher civic capital have also been associated with higher compliance with social distancing during the COVID-19 pandemic; see [3, 4, 11].

Trust itself is not fixed and will evolve according to the institutional fabric and the behavior of others. Even if individuals are constrained by the threat of formal sanctions, the veneer of trust that compliance presents may lead to the evolution of strong norms of compliance, with the need for adherence, rather than fear of sanction, becoming the driving normative force. The way in which trust is portrayed in narratives and what information citizens have about acts of trust between fellow citizens may be important too. Confidence may be built through negative reciprocity if sanctions (both formal and informal) are imposed more visibly after trust is betrayed. Unless trust, transparency and sanctions work together, there is a risk that citizens become cynical about the behavior of others.

Trust in government during the pandemic will also tend to evolve and reflect institutional arrangements which affect the confidence of citizens in their government at the outset of the crisis. Survey data such as the World Values Survey finds striking differences in confidence in government. One way for governments to build trust is for citizens to know that when government officials and politicians cross a line, then they will be sanctioned. Observing that a key adviser to the UK prime minister was apparently violating lockdown rules with apparently little sanctions have been reported anecdotally to induce non-compliance. Taking a longer view, the mere fact that these transgressions are being reported by the media is a sign of progress. Although there can be exceptions, in general, we expect transparency to play a positive role in supporting confidence in government and building trust between citizens and government.[15]

Studying the Data
Once the seriousness of the pandemic became apparent, it was clear that governments needed to act quickly and adroitly. The research community rapidly made sources of data available for empirically studying this response. Here, we will discuss some of the patterns that have emerged in the context of government and citizen responsiveness and engagement.

To do so, we study three main sources of data, considering (1) the progression of the disease; (2) the nature of public action; (3) the nature of private action.

In all three cases, the data is of variable quality, due to factors ranging from real-time collection methods to definitional and interpretative disagreements, such as the absence of a consistent definition and measure of COVID-19-related deaths. This data allows us nonetheless to track the progression of the disease alongside the actions taken by governments and the behavior of citizens, in particular their reduced mobility. The objective is to use these sources of information to examine how public and private actions differed based on factors discussed above such as trust, the type of governments and severity of the disease.

Disease Progression: Early on in the pandemic sources became available for studying this reporting data on infection rates, mortality and hospital treatment. The reliability of this early data was particularly problematic. Precisely what would be classified as a COVID-19 related death was not clear and remains disputed. For example, the window of time since a person had a positive COVID-19 test can vary when choosing whether to classify a death as due to COVID-19. Moreover, while excess mortality may have been a helpful indicator, showing how many deaths occurred over a typical benchmark level, only a few countries record and produce such a measure. Similarly, testing regimes were extremely limited and of variable quality across countries, while hospital admissions data also varied a great deal. But despite these limitations, ensuring that there are public sources of data remains tremendously important in fostering trust. In some countries this data was freely available and widely reported in the media. In others, it was suppressed and/or of such low quality to be worth very little. In a world where the main model of government is coercion, it may matter little that there are public signals of disease progression but in open and democratic societies where trust is important, this is not the case.

Public Action: There are many different ways of looking at government policy. Many of the measures necessitated by COVID-19 were unusual and not captured by usual indicators. But very quickly sources of data sprung up, trying to look at the timing and nature of measures being introduced. It is possible, for example, to find ways of measuring just how severe lockdown policies have been in some places and at what dates they were announced or implemented. The availability of such data makes it possible to ask questions about correlates of public action.

Private Action: One of the main responses to COVID-19 has been for individuals to refrain from normal social and economic interactions. Many people have stopped travelling, especially on public transportation and spend less time engaged in cultural and leisure activities. Of course, in many cases this is as a direct response to government measures, but others contain amore voluntary component. In studying citizen responsiveness to the pandemic, it has been useful to use data from mobile devices as a means of tracking private actions. This is inevitably crude as we know little about the purposes of the actions and tracking is imprecise. But in spite of the measures being noisy, we do have measures that can be studied. Moreover, these are high frequency data, published on a daily basis. They allow us to look at responses not only to the severity of the disease progression but also to policy measures, especially lockdowns.

Core Facts
In line with our earlier discussion, we will focus on whether there are observed divergence on COVID-19 response between countries based on their institutions and levels of trust.

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[15] In a parallel study for this volume [18], look at the drivers of social compliance to lockdown rules in the UK, and the role of social norms and legal requirement in shaping collective behaviour.

Data on COVID-19 deaths come from the John Hopkins University (JHU) and are based on national reports from health authorities, which the JHU collects and harmonises on a daily basis. Despite the limitations mentioned above, we focus on COVID-19-related deaths as a measure of disease progression as it remains the measure least likely to be manipulated and affected by different testing regimes across countries. Using these data, Deaton has shown that the death rate is considerably higher in high-income countries [12]. Given this difference between high- and low-income countries, we will focus on the relationship between the level of deaths and various country-level variables related to institutions and culture, while controlling for income per capita, Hence the differences that can be observed in subsequent figures look at the effect after taking into account the fact that rich countries have been more severely affected by COVID-19. Conditioning on income is a way to account for an important background factor which may have a direct bearing on how the disease spreads due to patterns in economic, political and social behaviors. It is also relevant since it is well-known that higher income is strongly correlated with institutional features such as having high levels of freedom, high levels of trust, and democratic systems of government. Controlling for income allows us therefore to examine the importance of these institutional factors on actions during the pandemic separately from the influence of income.

Figure 2 considers the relationship between the mortality rate over time and six key indicators: strong executive constraint; fair elections; freedom; trust in society; trust in government; and confidence in government, after controlling for income.

In Panel 1, we differentiate between countries with high and low executive constraints,[16] which has been repeatedly emphasised as crucial to effective governance.[17] By constraining government, there is theoretically less scope for rent-seeking activities and policy is more likely to be cohesive. While there is no direct link to pandemic preparedness, there are strong correlations between strong executive constraints and a range of measures of state capacity. Such measures are also strongly correlated with higher life expectancy and lower infant mortality, even after controlling for income differences.[18] The question is therefore why countries with strong executive constraints have generally had *higher* death rates, with one possibility being that these constraints have led to less decisive actions by governments.

In Panel 2, we also explore how the progression of the disease is correlated with another measure of political institutions: whether a country conducts free and fair elections, as defined by the Varieties of Democracy project. The measure tries to capture not only whether elections are actually held periodically, but also whether they are conducted openly and without the government interfering in the outcome. In theory, it may have been hoped that the fact decision-makers in more democratic countries were accountable to the people through future elections would spur such governments into acting decisively. But, superficially at least, this does not appear to be the case.
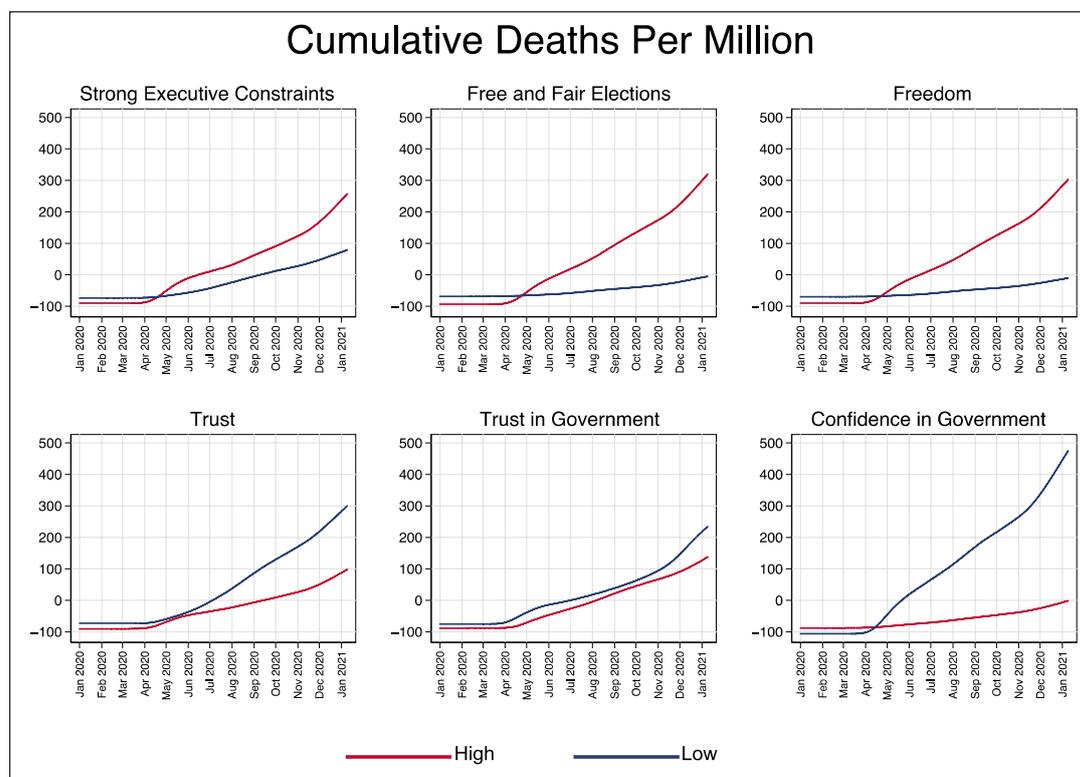
Figure 2: Differences in Cumulative Deaths per Million by Type of Institution.
Source: Authors' calculation. *Notes:* Deaths per million shown as a moving average of 28 days, and as residuals after controlling for log GDP per capita.

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[16] We use the measure of executive constraint from the Polity IV project.
[17] See [1] and [9].
[18] See [9].

Panel 3 also cuts the data based on a standard measure of freedom from Freedom House.[19] We split the sample of countries according to the aggregate freedom score above 50 out of 100. Here, there is a striking finding that the countries that have experience more COVID-19 deaths tend to those with *higher* freedom.

Panel 4 considers how the pandemic varies between countries with high and low level of citizen trust. This data comes from the World Values Survey and uses the now standard trust question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" Those who respond with "you cannot be too careful" have their answers coded as 1. Here the finding is that high-trust countries (those who mean answer in the survey is above the median) tend to have had a better experience than low-trust countries.

Trust in government is considered in Panel 5. This is measured by the COVID-19 international survey run at the onset of the pandemic using the question "How much do you trust your country's government to take care of its citizens?" We split the sample according to whether a country's average share of positive answers was greater or equal to the median share. In terms of outcome, there is very little difference in deaths per million population between countries that have high confidence in their government compared to those that do not.

In Panel 6, we look at heterogeneity according to confidence in government. This is also measured in the World Values Survey using the question "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?" We use the answers as applied to the government in the capital city and code the answer as equal to one if the answer is "not very much" or "none at all", i.e. if there is low confidence. We plot countries above and below the median value at the country level.[20] **Figure 2** shows that there is a striking difference between countries that have high confidence in their government those that do not. Countries in which citizens have low confidence in their government tend to experience a much higher death toll from COVID-19.

In summary, standard measures of "good institutions" are not correlated with a better outcome in the pandemic when it comes to the death toll, but countries with higher interpersonal trust and higher confidence in government appear to have experienced a lower death toll. Although these are only correlations, they are worth considering, particularly in terms of how they are contrary to expectations based on past research and thinking.

Government Responsiveness

We now look at differences in government action between countries in response to the progression of the disease. Data on lockdown decisions by countries is compiled by [19]. We consider that a country is under a lockdown when national measures restricting movements are in place at a national level for at least part of the day.[21] The question that we explore is mostly about the timing of lockdown's introduction. The period between March and May 2020 has been referred as the *Great Lockdown* period with almost every country in the world enacting strict containment measures [17]. Examining differences in the timing of the lockdown decision during this period may yield insights into factors that are associated with governments taking rapid actions to curb the spread of the disease.[22]

If countries were slow to take action, we would expect a higher death toll at the point of lockdown imposition. As such, we consider the death rate per million at the point a lockdown is implemented in **Figure 3**. The top three panels consider this, after controlling for income. They show that countries with weak executive constraints, not holding free and fair elections, or with lower levels of freedom all had lower levels of death at the point of lockdown, something which may explain why they may have fared better during the pandemic. Countries with high citizen trust and high government trust, which have experienced less deaths, also had lower levels of deaths at the time of lockdown.

These results underpin the idea that some institutional arrangements may have inhibited quick responses, perhaps because the constraints in place made governments less able to act decisively. However, the trust variables – interpersonal and between citizen and government – were correlated with swifter action, and echoed results from **Figure 2** that high-trust countries were more successful at limiting the spread of COVID-19.

Citizen Responsiveness

We now turn to the responsiveness of citizens, assessed through their movements throughout the period of the pandemic and the immediate prior period. Here, we present evidence based on data from Google Community Mobility reports. They are based on visits and length of stay at different places over time compared to a median value for the corresponding day of the week during an earlier period, specifically the five-week period from January 3rd to February 6th, 2020. Values are normalized to indicate a percentage change in mobility compared to baseline, allowing us to interpret this measure as the extent of reduction in mobility during the pandemic compared to a business-as-usual period. All the panels in **Figure 4** show a sharp fall in mobility around the time of the first wave of the pandemic. Again, we take the pattern conditional on income.

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[19] See www.freedomhouse.org for detail.

[20] Among the 48 countries with high confidence in their government, those with highest confidence are Vietnam, Uzbekistan, Tanzania, Qatar and China. Similarly, out of the 50 countries with low confidence in their government, the lowest confidence countries are Tunisia, Hungary, Slovenia, Bulgaria and Haiti. On average, both sets of countries have similar level of GDP per capita, but high-confidence countries have 1.5 lower years of education.

[21] Countries imposed different types of lockdown stringency. For simplicity and to capture responsiveness in part of governments, we focus on the timing of lockdowns.

[22] Looking only at the timing of lockdowns is, of course, somewhat limited. Some countries such as India, which locked down quickly, were criticized for the design rather than the speed of the lockdown. A more granular approach to the nature of lockdowns is therefore warranted in future research.
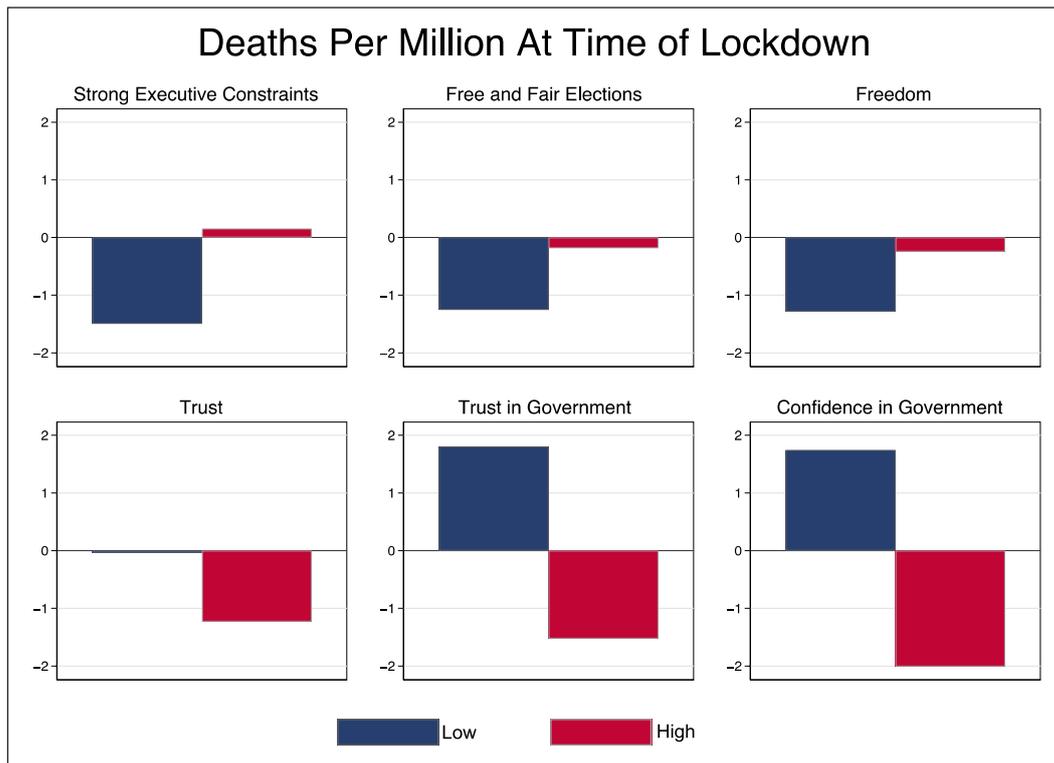
Figure 3: Differences in Number of Deaths Per Million at Time of Lockdown by Type of Institution.
Source: Authors' calculation. *Notes:* Values are shown as residuals after controlling for log GDP per capita.
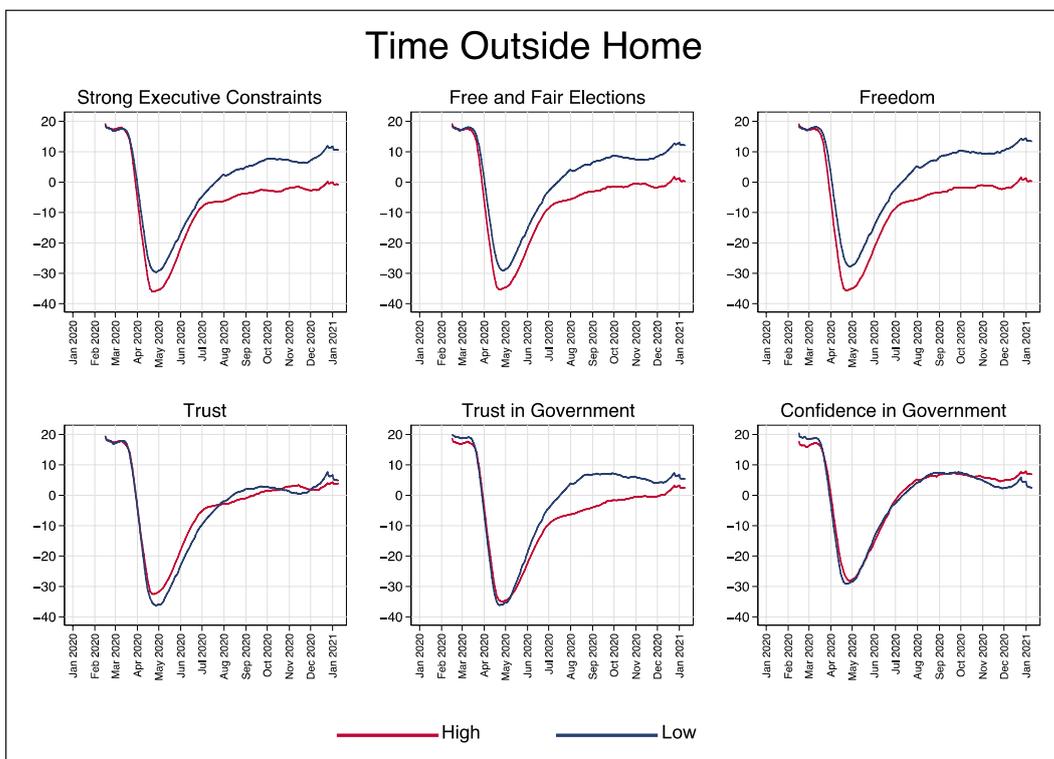
Figure 4: Differences in Time Spent Outside By Type of Institution.
Source: Authors' calculation. *Notes:* Values are shown as a moving average of 28 days and as residuals after controlling for log GDP per capita.

This fall in mobility was somewhat larger in countries with strong executive constraints, with free and fair elections, and with greater freedom. This suggests that the source of the difference in the severity of the pandemic documented above is unlikely to be due to greater reductions in citizen mobility imposed by authoritarian countries.
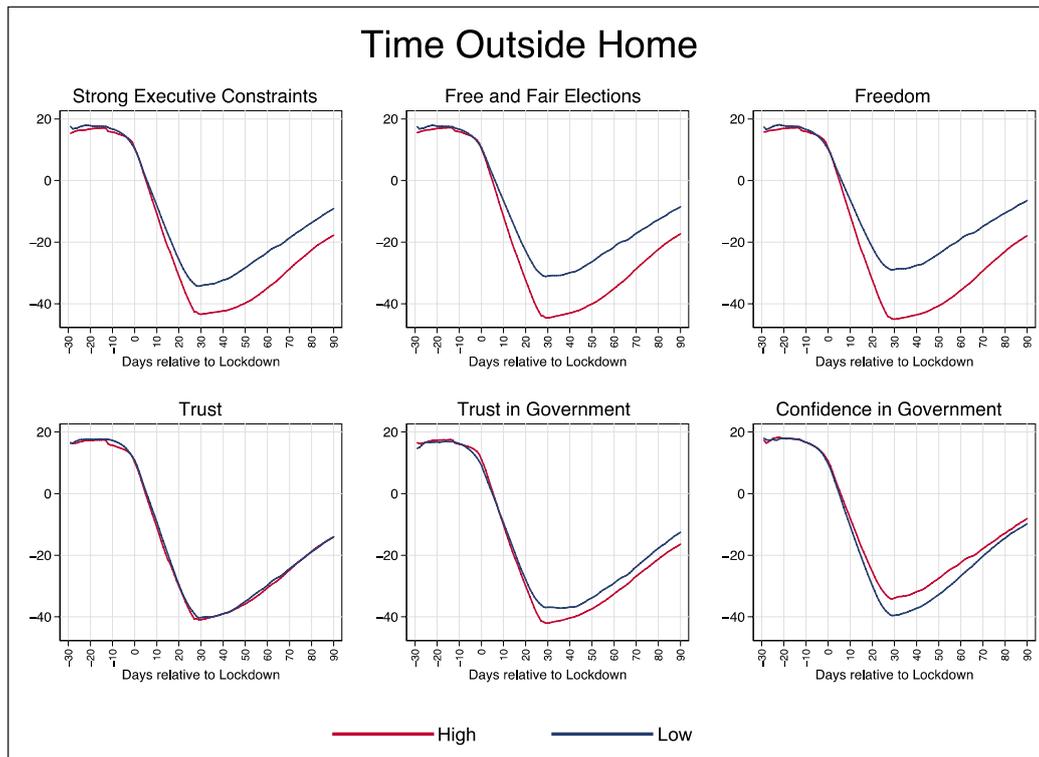
Figure 5: Changes in Time Spent Outside During Lockdown By Type of Institution.
Notes: Values are shown as a moving average of 28 days and as residuals after controlling for log GDP per capita.

This finding is reinforced when looking at changes in mobility around the introduction of lockdowns as reported in **Figure 5**. Here we find that countries with strong executive constraints, free and fair elections and greater freedom also have larger post-lockdown falls in mobility, while there is little difference with regard to trust and confidence in government.

Lessons and Conclusions

Even a year on from the start of the pandemic, it is still too early to form any strong conclusions about the institutions most able to tackle the pandemic. What we have presented here is food for thought, rather than evidence supporting any specific narrative. These findings may also be temporary, as the pandemic is still ongoing. Nonetheless, they open up many questions. Here, we are motivated by two linked issues: (1) what drives responsiveness by government and how do the institutions shape this response? and (2) what drives the willingness of citizens to comply with restrictions and curb their self-interest? We have offered a limited window on each of these questions and much more detailed work will be needed in future to better understand these issues. A range of related questions that are beyond the scope of this article are also ripe for exploration. These include, for example, distributional consequences of the pandemic based on institutional arrangements, and the resilience of nations in the face of this crisis. Questions of preparedness are already arising, alongside analysis of what institutional frameworks can help to promote decisive action in the face of future threats. Whether countries that have traditionally been classified as having "good institutions" will lead the way in making these changes remains to be seen. All this reinforces that we have much to learn both about what lies behind the empirical patterns reported here, but also what their implications are for the future.

It is noteworthy though that having "good institutions" as conventionally conceived is not correlated with better experiences during the pandemic. Even after controlling for income differences, countries with strong executive constraints, free and fair elections, and greater freedom appear to have had worse experiences during 2020. In particular, they were slower to lock down, suggesting that the disease was able to get out of control before decisive actions were taken. This may explain their worse experience in containing infections, despite greater average reductions in mobility by citizens in countries with strong constraints, free and fair elections and greater freedom. In contrast, countries with high societal trust and high trust in government do appear to have acted more decisively.

Even though much remains to be done to better understand these issues, the pandemic has already opened up debates about the nature of the societies that we live in. These debates were foreshadowed in [27], who, while recognising the benefits of free and democratic societies, understood that they were not well-placed for dealing with infectious diseases. If pandemics are rare events, occurring once a century or less, then it is hard to imagine that there will be wholesale changes in the organisation of society, particularly given that for more than two centuries "western society"

has flourished in economic terms and in terms of promoting freedom. If on the other hand pandemics become more frequent or more severe, they will become hard to control when governments are more constrained and face their electorates periodically, and a very different kind of debate will ensue when this pandemic comes to an end as to what system of government best addresses such future threats.

Relatedly, it is still unclear whether this pandemic will be defining event for state action and institutional reform on a par with the Great Depression or World Wars. This is perhaps most salient for the developing world where the role model that has dominated the agenda has been mimicking features of the cohesive states of Western Europe. These evolutions would require navigating a narrow path between rewriting the rules based on what is still a relatively short-term shock and failing to adapt to the lessons that need to be learned. Research on the origins of trust and building institutions that support effective government will surely have an important role to play as these debates unfold.

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Competing Interests

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