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Government capacity, societal trust or party preferences: what accounts for the variety of national policy responses to the COVID-19 pandemic in Europe?

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ABSTRACT
European states responded to the rapid spread of the COVID-19 pandemic in 2020 with a variety of public policy measures. In this article we ask what can account for this variation in policy responses, and we identify a number of factors related to institutions, general governance and specific health-sector related capacities, societal trust, government type, and party preferences as possible determinants. Using multivariate regression and survival analysis, we model the speed with which school closures and national lockdowns were imposed. The models suggest a number of significant and often counterintuitive relationships: more centralized countries with *lower* government effectiveness, freedom and societal trust, but with separate ministries of health and health ministers with medical background acted faster and more decisively. High perceived capacity might have provided false confidence to the governments, resulting in a delayed response to the early stages of the pandemic. Furthermore, more right-wing and authoritarian governments responded faster.

Introduction

Officially, the SARS-CoV-2 virus first hit the European continent in the beginning of 2020. The coronavirus disease (COVID-19) started to spread fast, first in Italy, and then in other European states, such as France and the UK (Spiteri et al., 2020). By March 2020, the horrific potential of the pandemic had become apparent, and the national governments announced a series of restrictions on travel to their countries and on mobility within their territories. Despite the fact that all

European countries announced some restrictive policy measures during these few fateful weeks in March 2020, both the policy mix and the timing of adopting the measures differed even within the relatively similar set of EU member states (plus the UK, Switzerland, Norway and Iceland) in this initial period. In this article, we ask: What factors can account for the timing and variety of policy responses to COVID-19 in Europe in the early stages of the pandemic before April 2020?

To answer this question, we build on existing theories of the public policy process, regulation, and decision making in order to identify a number of factors that could have influenced how governments have approached the management of the coronavirus pandemic. The set of potentially important factors we study is large and covers variables related to political institutions, general governance capacity, specific health care sector capacities and organizational arrangements, political party ideologies and preferences, and societal factors, such as interpersonal trust, trust in government, and the overall freedom in a country.

We analyze the possible associations of these factors with two aspects of the national policy responses: the closing of schools and the imposition of national lockdown. Our analysis is limited to measures taken in response to the first wave of the pandemic in Europe, at a time when experts in all countries had the same limited knowledge of the virus and of the effectiveness of measures to slow its spread. We use linear regression and event history (survival) statistical methods to model the number of cases a country had before adopting any of these policy measures and the number of days between the first registered case and the policy decisions.

The models suggest a number of significant and often counterintuitive relationships: we find that more centralized countries with *lower* government effectiveness, freedom and societal trust, but with separate ministries of health and health ministers with medical background acted faster and more decisively. These results are best regarded as associational rather than causal. But for some variables – government effectiveness, in particular – we build more complex multivariate models that try to isolate the *causal* effect of the variable from other possibly confounding influences, and we find that the relationship is robust to including GDP per capita and indicators of the health care capacities in the models. Still, given the exploratory nature of the study, our results are best conceived as identifying promising *hypotheses* about the determinants of the national policy responses to the COVID-19 pandemic in Europe rather than estimating causal effects or testing theories about the policy process.

When it comes to managing the early stages of the pandemic, it appears that the earlier countries acted and the more comprehensive the restrictions they adopted, the more effective they were in slowing down and containing the spread of the virus (Hsiang et al., 2020; Islam et al., 2020). Therefore, understanding the factors that enhanced or impeded the speed of policy making in response to the coronavirus is an important element in preparing

more effective and efficient governance structures for dealing with pandemics and other crises (Dunlop et al., 2020).

Early policy responses to the COVID-19 pandemic: tools and timing

Following the first reports of confirmed cases in their countries or regions, governments across Europe and the world adopted a series of policy measures to mitigate the coronavirus outbreak. Policy responses have included, among others, the mandatory closure of schools, requirements for telecommuting when possible, the closure of borders, suspension of flights, prohibitions on public events of certain size, and restrictions on the freedom of movement of private citizens (Hale et al., 2021; Oliver, 2020). Often several measures have been introduced simultaneously and have been accompanied by a formal declaration of a state of emergency or the passing of emergency legislation, either of which may grant the government extraordinary decision-making authority. As such, these measures do not necessarily amount to a coherent public policy with clear goals and structure, but present temporary and piecemeal responses to the unfolding crisis, often adopted with little coordination between the measures.

In this study, we limit our attention to two of the most important measures nearly all European governments took in the early stages of the pandemic: school closures and national lockdowns. School closures are defined as mandatory closure of most primary and secondary schools nationally, even if some categories of establishments (e.g., kindergartens) are excluded and if the schools remain open for a small section of society (e.g., children of workers in critical sectors, such as healthcare). National lockdowns are defined as comprehensive restrictions on the movement of citizens with stay-at-home orders, closing down of shops, businesses and in some cases public spaces, applied to the territory of the country as a whole (rather than only to particular regions).

For each country and each policy measure, we record the date when each kind of measure was announced (for a descriptive overview, see Part 1 of the Online appendix). While the variation in the timing of school closures, and to a lesser extent, national lockdowns may appear small in absolute terms, it is very important from theoretical and practical points of view. From a theoretical point, it is remarkable that having observed the crisis in Italy, the remaining European states did not choose to adopt the same policy measures at the same time, let alone coordinate their responses, despite facing very similar circumstances and despite existing structures for cooperation in the EU. From a practical point of view, the variation in the timing of policy responses is significant, because a difference of a few days in imposing lockdowns possibly resulted in a significant amount of infections and lives lost (Flaxman et al., 2020; Hsiang et al., 2020; Islam et al., 2020).

What accounts for the diversity of policy responses? Theoretical perspectives

The research question we address – why governments in Europe reacted differently to the pandemic – goes to the heart of understanding governmental capabilities for engaging with sudden and deep crises, which is one of the most important determinants of a state's legitimacy. Existing studies suggest the leadership of public organizations, performance management, evidence-based policy making, and institutions (e.g., Boin et al., 2020; George et al., 2020; Kettl, 2020; Van Dooren & Noordegraaf, 2020; Weible et al., 2020; Yang, 2020) as the most important factors influencing the government responses. The central tenet in these studies is that the way governments have reacted to the outbreak is a function of the capacities and characteristics of the public administrative system already in place.

We apply an actor-centered understanding of the policy-making process, and we focus on the role of the *central* government and the executive in particular. Taking cabinets as the central decision-making actors is congruent with the general view in comparative politics that the majority of European parliamentary systems are characterized as systems whereby the executive is dominant vis-a-vis the legislature. This is even more so in times of crises, though structures for crisis coordination vary within Europe and by type of crisis (Boin & Bynander, 2015). National cabinets, ministers, ministries and government agencies have been at the center of formulating and enacting policy responses to the pandemic, even if some of the measures have required the approval of the legislatures and local governments have played a significant role in their implementation.

Our actor-centered approach leads us to combine the interest in the role of government capacities and the influence of political regimes. We build on theories of the public policy process, regulation, politics of institutional design, agenda-setting, and legislative decision making to identify mechanisms and factors that can account for the timing and variety of policy measures adopted by the European governments in response to the corona-virus crisis. One key insight from these studies is that any substantial change of the status quo, as is the case with school closures and lockdowns, is conditional upon the support of a political majority for the upset of the status quo. Bringing in the politics of decision making enables us to understand not only what characteristics of states shape governmental responses, but also to what measures governments are actually able to take. This is especially important in a study of a crisis: while a swift handling of a crisis is imperative, time to forge majority support for measures that supplant the status quo and incur heavy economic and social costs on specific groups is short.

In the remainder of this section, we present expectations about the effects of a number of administrative and political factors that could have affected

the outcomes of decision-making processes in the countries of our sample. We organize the discussion by grouping the variables in several clusters: (1) general governance capacity, (2) crisis management preparedness, (3) health care specific capacity and organization, (4) political institutions, (5) government type, (6) party-political ideology, and (7) societal factors.

General governance capacity

The first cluster of variables we analyze is related to the idea that the quality and timeliness of the policy responses depend on the general governance capacity of the countries (for a discussion of governance capacity during crises, see Christensen et al., 2016 and, more recently, Capano et al., 2020). To adopt appropriate policy measures to tackle the crisis, governments need to have the capacity to detect the impeding health care threat, to monitor the development of the epidemic, to collect enough information to assess the risks and likely effects of different possible policy responses, to formulate fast the technical and legal details of concrete policy proposals, to communicate the policy measures effectively to the public, and to organize for implementation and enforcement of the measures. In structural terms, high governance capacity requires that experts are incorporated at each stage of the policy process, from the detection of the problem to be put on the government agenda, to the formulation of policy alternatives, to decision making, policy implementation and evaluation, and may include norms of evidence-based policy making. High governance capacity implies that governments have wider range of policy tools at their disposal and are able to deploy these tools more swiftly, also because of the higher legitimacy the policy actions of such governments have in the eyes of the public. High governance capacity is underpinned by established rules and procedures for crisis detection and response, including the setup of specialized committees, agencies and other advisory bodies. We operationalize general governance capacity using the *Worldwide Governance Indicators* provided by the World Bank (for the definition, data sources and descriptive statistics of all variables, see Part 2 of the Online appendix). We also take *Gross Domestic Product Per Capita* as a measure of the relative wealth of countries, on the assumption that institutionalized capacity that can be quickly deployed requires a lot of financial and other resources, inter alia to maintain a well-trained and properly paid civil service.

Crisis management capacity

In addition, we include the more specific score related to the incorporation of experts in policy making from the *Strategic Governance Indicators* provided by the Bertelsmann Stiftung. This score indicates the degree to which the

government regularly incorporates advice from non-governmental experts early in the decision-making process, which is a factor that should enhance crisis management capacity. Note however that the involvement of experts in crisis management might lead to slower responses, if experts are concerned with the proportionality of the response and want to avoid drastic precautionary measures. Another variable that captures specific capacity to deal with health emergencies in particular is the *Global Health Security Index*. An even more direct way to track capacity to deal with pandemics is the recency of the *pandemic preparedness plans* recommended by the World Health Organization.

Health care capacity and organization

Next to general governance capacity and (health) crisis preparedness, we consider capacities specific to the health care sector. In particular, we focus on how governance of the health sector is organized and represented in the government organizational structure, whether the sector is politically represented in the cabinet by a medical professional, on its capacity (hospital beds and intensive care units, nurses and physicians) and financing.

The first health care sector variable that we consider is the *organization of the health care portfolio*. Some cabinets have a ministry of health care that is entirely devoted to health care issues. In other cabinets one finds the health care portfolio being part of a ministry with multiple portfolios, such as social affairs, welfare or employment or subsumed under other issues. Portfolio design affects the prioritization of health care issues within organizations, as well as on the cabinet agenda (Hammond, 1986; Mortensen & Green-Pedersen, 2015). In 'single-sector' health portfolios or ministries, health care values and interests do not need to 'compete' with other non-health care related issues. Accordingly, the weight of healthcare issues increases with the presence of a single-sector ministry. We expect that central governments with *single-sector health portfolios* will adopt policy responses earlier than central governments with either multi-portfolio departments in central governments or ones that do not have a specialized health ministry.

A second sector-level factor that is of importance is the professional background of the healthcare minister. We expect that a cabinet in which the minister of health care is a *medical professional* will adopt policy measures more swiftly than governments where the health minister has a non-medical background. A minister who has medical background is expected to understand better the health and epidemiological issues surrounding the epidemic, to be more receptive to the opinions of medical experts and doctors directly engaged in treating victims of the virus, and to have more accurate impressions about the situation on the ground level in hospitals and other medical care facilities. Having a reserved seat at the cabinet, a health minister

with medical background can channel the concerns and views of the profession directly into the highest decision-making forum.

A different set of indicators of health care capacity that we examine is the number of hospital beds and intensive care units (ICU) that countries have at their disposal. Cabinets attach high importance to the existing capacities of hospital care, which cannot be upgraded quickly to match the demands created from an exponential increase in the number of victims of the corona virus. Lower numbers of hospital beds, and ICU in particular, might make countries more cautious and more likely to adopt faster restrictions in response to the threat of the pandemic. Simply put, if the capacity of the health care sector to deal with the consequences of a rapidly spreading virus is known to be low, government will be less likely to take chances with partial or delayed lockdowns. Public justifications of the measures adopted in Ireland and Greece also support this line of reasoning.

A related set of indicators concerns the human dimensions of the capacity of the sector: the *number of nurses and physicians per capita*. We also track the overall *health expenditure per capita*. With regard to the organization of health delivery, we include the *share of private health expenditure* and the *percentage of physicians who work in hospitals*. The latter indicator is related to the distinction between hospital and community-based health care delivery, which might be important for the speed of the policy response.

Political institutions

The next set of factors we consider relate to political institutions and, in particular, to the vertical distribution of power within the state and the type of legislature. We expect that federal and decentralized countries will be altogether slower in their initial responses to the coronavirus crisis (cf. Hartley et al., 2021; Hegele & Schnabel, 2021; Yan et al., 2020). At the political level, federal countries might require political compromises between the federal and regional-level authorities (Pattyn et al., 2020). Competences over different aspects of handling the crisis (health care, education, police, etc.) can be shared or distributed along the levels of government in complex ways that can impede the speed of policy formulation and require longer decision-making procedures, increasing the scope of gridlock and delay if preferences across levels diverge. At a more technical level, federal and decentralized states might experience problems in collecting timely and comparable data related to hospitalizations, deaths, virus prevalence, hospital capacities, etc. from the different constituent units. And there might be greater variety and anticipated difficulties in uniform implementation of any common policies decided at the federal level, which will limit what policy options are feasible. Overall, decentralized states can be

expected to be less efficient and effective in dealing with health care crises, especially in the early stages when the speed and coherence of the policy response are of prime importance.

Because not all of these mechanisms are specific to federations as such – strongly decentralized (like Spain) or devolved states (like the UK) can be subject to very similar problems, we employ two variables to measure the vertical distribution of power in a state. *Federalism* is a dummy variable that distinguishes between (con)federal (Belgium, Austria, Germany and Switzerland) and unitary states. *Regionalism*, as measured by the Regional Authority Index, is a more fine-grained indicator that measures the degree to which a political system has devolved authorities to regional administrative levels, such as districts, provinces or municipalities (Hooghe et al., 2016).

The other factor related to political institutions that we include is the *type of legislature*. We expect higher transaction costs, and thus a less timely policy response, when the legislature has two chambers, because legislation needs to be approved by both chambers and a lengthy bargaining between the two chambers might be involved, especially when different political majorities control the two chambers. The measure we use is a dichotomous variable for *bicameral legislatures*.

Government type

The next set of factors we study relates to the type of government in terms of its status (minority or majority, caretaker or not) and number of parties in government (one for a single-party cabinet and more in a governing coalition). These variables are related to the transaction costs of negotiating and adopting laws and policies in cabinet decision making. With a higher *number of coalition partners*, reaching a compromise policy decision becomes more difficult, takes more bargaining rounds and can run into a stalemate (Toshkov et al., 2020). Moreover, even when a compromise is found, it is more likely to embody a piecemeal solution with more vague provisions open to interpretation and the discretion of implementing agents. This is even more so when different parties control ministries with different missions and constituencies to protect, such as Health Care and Economic Affairs, for example, or Education and Finance.

Minority governments face even greater hurdles for rapid policy making, because they have to build support coalitions for any law they want to pass through the legislature. Multiparty minority coalitions combine the challenges of both coalition and minority governments. At the same time, it should be noted that countries where coalition and minority cabinets are often found have established institutionalized mechanisms to mitigate the negative effects on the effectiveness of the policy making process (Anghel & Thürk, 2019; Klüver & Zubek, 2018).

Some governments are 'caught' by the outbreak of the virus during a transitional period, during which a *caretaker government* with limited authority is in power. Belgium, for example, was 'hit' during the watch of the caretaker and minority government of prime minister Wilmes (Wilmes I). When the first infection case was reported in Ireland on 27 February 2020, the Irish government of Taoiseach Varadkar, too, had a caretaker status. We expect the transaction costs of policy response adoption are higher to caretaker governments as they lack the necessary mandate to govern by popular consent.

Party-political ideology

While the factors considered so far capture the capacities of governments and the constraints they face when formulating and adopting policies, the next set of factors looks at their *preferences* over different policy responses to the crisis. To analyze the effect of government preferences and interests, we look at the political ideology positions of the main parties in cabinet (we operationalize the main party as the party of the prime minister, which works for most countries, with the exception of Switzerland, where the prime-ministerial post rotates). We consider the ideological positions along three dimensions, as defined by the Chapel Hill expert survey team: a *general left-right* dimension, an *economic left-right* dimension and a *GAL/TAN* (green/alternative/libertarian vs. traditional/authoritarian/nationalist) dimension (Bakker et al., 2020).

We expect that economically left-wing parties will be more inclined to adopt measures earlier in the process of the outbreak compared to right-wing (economically liberal) parties because of the former's higher commitment to social values and healthcare, such as protection of the weaker groups from being infected. Accordingly, we hypothesize that main governing parties towards the right end of the economic left/right scale to be slower in adopting school closures, stay-at-home orders and national lockdowns, because of the impact of such measures on economic activity and the difficulties they create for businesses and employers in particular. Not only are economically right-wing parties predisposed to protecting the interests of business actors; they are also expected to oppose the state intervention in the economy that would be needed to mitigate the effects of lockdowns on economic growth, unemployment and bankruptcies.

Parties espousing traditional, authoritarian and nationalist values in their ideology, however, are expected to adopt faster and more heavy-handed restrictive measures. Such parties believe in the authority of the state to manage society and are willing to limit individual liberties and freedoms for the benefit of society at large. Such parties are especially likely to resort to emergency measures to handle the crisis, because they are interested in expanding and centralizing the power of the state more generally.

Societal factors

The final set of factors we study relates to societal values and the overall freedom of the country. More free societies are expected to have a lower likelihood of having restrictive measures imposed by their governments. In these countries, personal and collective liberties and freedoms are valued, respected, and protected by civil society. Governments face higher thresholds for justifying and enforcing even temporary and partial restrictions on the fundamental freedoms of movement and association. Moreover, respect for freedom is embedded into the political culture and heavy-handed restrictions are not even part of the usual repertoire of policy tools that governments have at their disposal. To measure *freedom*, we use the Freedom House global freedom score, which is a sum of scores attributed by experts on the qualities of political rights and civil liberties in countries around the world.[1]

We also look at the citizens' level of *trust in government*, a variable we obtain from the most recent Eurobarometer survey (European Commission, 2020). The effects of trust in government can pull in different directions. On the one hand, when citizen trust in the government is high, governments have a wider set of policy options to choose from, in the knowledge that whatever the choice, the decision will be respected and complied with by the citizens. On the other hand, because trust in the government is high, the measures the government adopts need not be restrictions and prohibitions backed by the power of hard law: recommendations and soft law measures might do just as well. On balance, we expect that countries with higher trust in government to be slower and less likely to impose complete national lockdowns (cf. Devine et al., 2020).

A similar logic applies to the expected effect of *interpersonal trust*. Cabinets in countries in which citizens display high levels of interpersonal trust will feel more confident with stalling the adoption of stringent measures upon their citizens. They can rely on society self-regulating itself, once the appropriate social behaviors have been announced and endorsed by the government and experts. In a high-trust social environment, compliance with social distancing can be effectively enforced by social pressure, in theory at least. Such logic has been explicitly used in justifying the lack of school closures and other restrictive measures in Sweden.

Method of analysis

We employ two different modeling strategies to estimate the associations between the timing of policy measure adoptions and the possible determinants identified in the previous section. The outcome of interest – the timing of policy responses relative to the severity of the pandemic for the country at the time of adoption – is difficult to capture with a single

measure. Therefore, we operationalize it in two different ways: (1) as the cumulative number of confirmed COVID-19 cases at the time of policy measure adoption; (2) as the number of days between the first confirmed COVID-19 case in the country and policy measure adoption (see Figure A1 in the Online appendix). We take the number of officially-confirmed cases at the time of the policy events because this is the information that policy-makers had at their disposal to guide their actions. These estimates almost certainly underreport the true scale of the pandemic at that point in time (cf. O'Donnell & Begg, 2020), which is why a difference of a few days in impos-ing the restrictions was so important. For our empirical approach to be valid, it is only necessary that the confirmed and undetected sets of numbers are correlated across countries.

Low numbers of confirmed cases at the date of adoption of the policy measures and few days between first case and adoption imply that govern-ments have reacted at a relatively early stage of the outbreak. We take the *confirmed* cases as the main indicator on which governments have acted, as we assume that, especially in the early stages of the outbreak, it was the public and official reports of confirmed cases that fueled public opinion and political debate, even if the *actual* numbers of cases have been (much) higher.

We use multivariate linear regression to model the first variable and Cox proportional hazards survival (event history) analysis to model the second variable. The survival models have the advantage of being able to accommo-date the fact that some of our observations are censored, meaning that they had not adopted the policy measure by the end of our observation period (1 April 2020). However, the number of confirmed cases at the time of policy measure adoption is arguably a more direct way to measure the current severity of the pandemic for the country. Therefore, we present the results from the linear regression models of this variable in the main text of the analysis, and we detail the results from the survival analysis in Part 3 of the Online appendix.

In the multivariate linear regressions summarized and discussed below, we take the natural logarithm to transform the outcome variable. The censored cases are kept in the data with their values of the outcome variable as of 1 April 2020. We enter the covariates of substantive interest one by one in sep-arate models because of the limited number of observations available (31 at most). The continuous covariates (with the exception of 'number of parties') are scaled (standardized) to have a mean of 0 and a standard deviation of 1. All models include a control variable for population size.

Our models assume that countries adopt the policy measures independently from each other: in reality, it is likely that that were processes of policy learning and diffusion at play (Sebhatu et al., 2020). With the sample we have, however, we cannot distinguish independent adoptions from a diffusion process due to the low number of countries and short period of time covered.

Empirical results

Figure 1 shows the estimated regression coefficients and 95 per cent confidence intervals for the factors of substantive interest on the timing of adoption of school closure and national lockdown. As mentioned above, the continuous variables are scaled, so that the size of the regression coefficients is directly comparable across variables. Since the outcome variable is the natural log of the confirmed COVID-19 cases, a regression coefficient of 0.7 implies roughly doubling of the predicted number of cases at which the policy measure is adopted for a change of 1 unit in the covariate (which would correspond to one standard deviation change for the continuous variables and a change from 0 to 1 for the dichotomous ones). A positive sign of the regression coefficient implies a higher number of cases at the date of policy measure adoption, hence slower policy reaction, and a negative coefficient implies fewer cases and a faster policy reaction.

As we can see from Figure 1, there are a number of significant relationships between the covariates of interest and the three policy outcomes.

In particular, the cluster of variables related to general governance capacity is rather strongly and consistently associated with the timing of adoption of the policy measures, such that higher government effectiveness, rule of law, regulatory quality and control of corruption *increase* the expected number of cases at which the policy measures are adopted.

To illustrate the substantive size of the predicted effects, a change of one standard deviation in government effectiveness (0.58 on the original scale of the variable) is associated with an almost 200 per cent increase in the number of cases at the date at which schools are closed down. GDP per capita also has a significant positive association, meaning richer countries took longer to announce policy restrictions. Surprisingly, the higher the SGI for incorporating expert advice in the early stages of policy making, the slower the government responses, according to the models. Even more perplexingly, countries with higher scores on the Global Health Security index have been significantly slower in restricting mobility in response to COVID-19 (cf. Abbey et al., 2020). Even the most direct measure of pandemic preparedness – how recently the response plan was updated – does not have the hypothesized effect.

The health capacity measures do not have consistent effects. The number of hospital beds has significant negative associations, but the number of nurses has positive ones, and ICU and number of physicians have none. Still, the most general measure – healthcare expenditure – has a positive association, supporting the argument that countries with higher capacity in the sector acted slower. The organization of the healthcare delivery does not seem to matter – neither the share of private expenditure nor the share of physicians working in hospitals (rather than other community institutions) have significant effects.
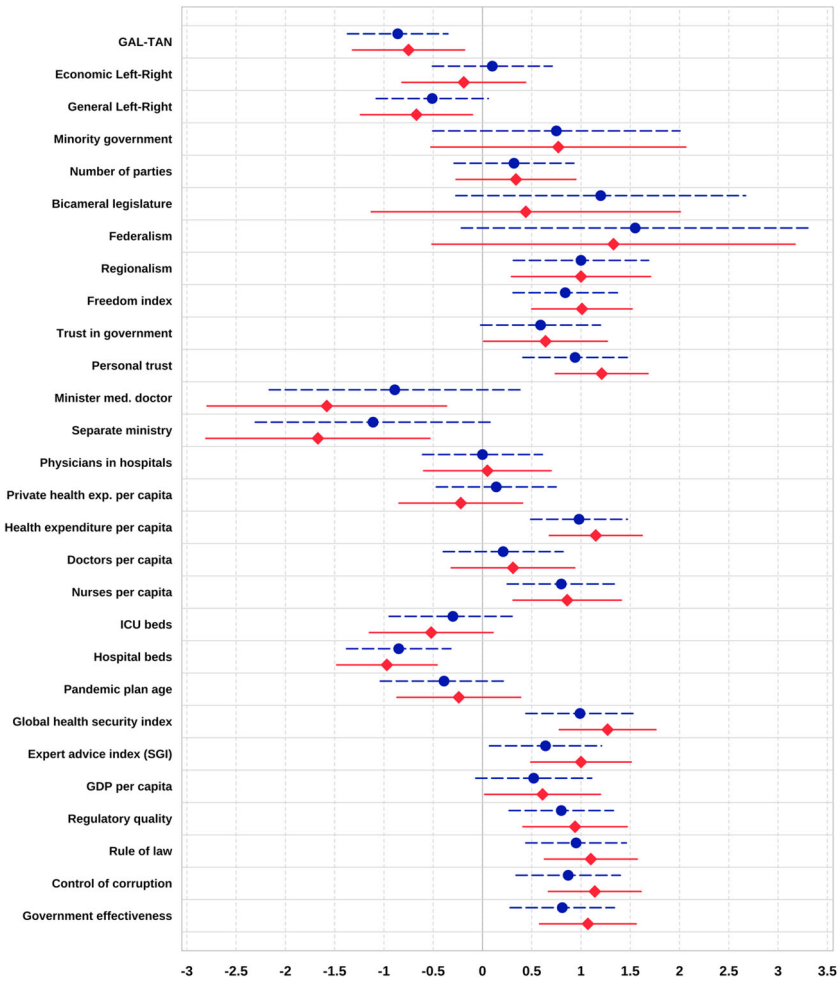
Figure 1. Coefficients and 95% confidence intervals for the effects of different variables on the timing of adoption of policy restrictions in response to the COVID-19 pandemic in Europe, Spring 2020. *Red diamonds and solid lines show the effects on school closures; blue dots and dashed lines show the effects on the imposition of lockdowns. The coefficients are extracted from linear regression models in which the outcome variable is the natural log of the number of confirmed COVID-19 case at the time of policy measure adoption. The effects of each variable of interest are modeled separately, but all models include a control for population. All continuous predictors are centered (to have a mean of 0) and standardized (to have a standard deviation of 1). The model details are in Tables A4 and A5 in the Online appendix. Positive coefficients imply later reactions to the pandemic, and negative coefficients imply earlier reactions to the pandemic.*

Having a separate ministry for health has a significant and rather large association with faster policy measures adoption. So does having a health (or prime) minister with a medical background, but the effect is only

significant for school closures. Both interpersonal trust and trust in government have significant positive associations with the number of cases at which the governments acted, and especially in the case of personal trust, the size of the effect is very big (240 per cent increase for a standard deviation change when it come to school closures). Countries with higher freedom, as measured by the Freedom House, have also been significantly slower in their policy responses.

From the set of institutional variables, both the regionalism and federalism scores seem to increase the number of cases before countries act (remember that all the models control for population size), the effect of regionalism being more precisely estimated. This implies that strong decentralization also impeded the speed of policy responses, in addition to formal federal arrangements.

The rest of the variables that capture institutional and other decision-making constraints related to government type do not have the expected effects, however. Minority governments, coalition governments with a higher number of partners and bicameral legislatures lack significant effects on the speed of the policy response. This might be the case because governments acted early to concentrate decision making within the core executive and side-line legislatures and lengthy intra-cabinet negotiations.

Finally, there is some evidence that party ideology of the main party in government has significant associations with the timing of the policy measure adoptions. Governing parties towards the right end of the *general* (but not socio-economic) left-right scale and the authoritarian ends of the GAL/TAN scale have acted significantly faster to close down schools and impose national lockdowns.

The survival models reported in the Online appendix mostly support these inferences despite the different outcome variable (number of days between first case and policy measure adoption) and modeling strategy. Some of the effects are less precisely estimated, but altogether the direction of all associations is consistent across the two sets of models.

All the models presented in Figure 1 enter the covariates of interest one by one, so they do not control for possible confounding influences (other than population size). With the type of data that we have, identifying and estimating truly causal effects is extremely difficult. Accordingly, we interpret our results in associational terms. But it is still worth exploring whether the influence of some of the variables of interest will be robust to including other covariates in the models. For example, it could be that low health care capacity confounds the relationship between general governance capacity and the speed of the response. It is also interesting to see whether interpersonal trust and freedoms have separate effects, and whether the influence of having a medical doctor as a minister is separate from the effect of having a ministry of health that is not subsumed or merged with other portfolios.

Table 1. Results from additional multivariate linear regression models of the timing of coronavirus-related school closures.

Variable	Model 1 Coef. (St.Error)	Model 2 Coef. (St.Error)	Model 3 Coef. (St.Error)	Model 4 Coef. (St.Error)
Population	0.04 (0.01)*	0.04 (0.01)*	0.04 (0.02)*	0.02 (0.01).
Date first case	−0.08 (0.03)**	−0.07 (0.02)*	−0.06 (0.03)*	−0.09 (0.02)***
Government effectiveness	0.66 (0.34).	0.74 (0.31)*		
GDP per capita	0.07 (0.32)	−0.20 (0.28)		
ICU units	−0.42 (0.25).			
Hospital beds		−0.53 (0.23)*		
Interpersonal trust			0.77 (0.27)**	
Freedom Score			0.26 (0.27)	
Separate ministry				−0.92 (0.45).
Minister med. doctor				−1.31 (0.45)**

Notes: Outcome variable is the natural log of the number of confirmed COVID-19 case at time of policy measure adoption. Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1.

Furthermore, it is possible that some of these associations can be accounted for by the fact that some countries – and the bigger ones being those occupying a more central position in the globalized world, in particular – were hit earlier from the pandemic and this explains why they took longer to react (cf. Plümper & Neumayer, 2020). To explore these possibilities, Table 1 reports another set of four linear regression models of school closures that include the date of the first reported COVID-19 case as a covariate, in addition to population size, and other variables of interests. In all four models, the date of the first case is negatively associated with the number of cases at which policy measures are adopted, so that the later the date, the fewer the cases. However, the rest of the covariates of interest remain significant. Importantly, in Models 1 and 2 government effectiveness remains significant even after we include GDP per capita and indicators for health care capacity, although the size of the coefficient drops. This implies that concerns about health care capacity might be one mechanism that drives the negative association between government effectiveness and the speed of the policy response, but it is not the only mechanism.

According to Model 3, including interpersonal trust and freedom in the same model leads to the latter being no longer significant, but the two are rather highly correlated, so there is not much information in the dataset to allow estimating both effects at the same time with enough precision. Looking at Model 4, we can infer that the personal and organizational channels for the effect of the importance of health care in the cabinet work separately, with both effects retaining their significance.

Conclusion

In this study we set out to uncover political, institutional, social and governance-related factors that could account for the variation and the types and

timing of the policy responses of the European governments to the initial spread of the COVID-19 pandemic in Europe during the first three months of 2020. Our study of the timing of school closures and national lockdowns revealed a number of interesting associations.

Perhaps most surprisingly, higher government effectiveness, the incorporation of experts in strategic policy making, and health crisis preparedness indicators turned out to be negatively associated with the speed of the policy response across the different statistical model specifications. To some extent, these negative associations might be driven by the fact that countries in which the coronavirus hit first happened to be those with higher values on these variables. But this cannot be the whole story, as the additional analyses proved robust to the inclusion of this variable. We offer a different interpretation that rests on a causal link between government effectiveness and the speed of the response: less effective governments in relatively poorer countries were aware of their limited capabilities of handling a major health crisis and chose to act fast and heavy-handedly to contain the spread of the virus. Yet, when we proxy the perceived threat of the virus by the available hospital and ICU beds in a country, this does not completely remove the association between government effectiveness and the timing of policy responses, suggesting that there are also other mechanisms at play. Institutional and organizational legacies might have played a role as well, as Eastern European governments tend to have a separate ministry of health that is not merged or subsumed under different portfolios. Of course, it could also be that existing measures of governance capacity miss important dimensions of policy-making capacity.

Does this mean that countries should reduce their administrative and policy-making capacities to deal with a pandemic? Of course not. But our results suggest that high levels of perceived capacities might lull governments into inaction in initial responses, giving them false confidence that they can contain and handle the consequences of the pandemic later. Governments with lower capacities sprang into action faster, which proved to be the better strategy in managing the early stages the COVID-19 pandemic.

In fact, some of these governments with relatively lower capacities – primarily in Eastern Europe – took the wrong lessons from their success in dealing with the first wave of the pandemic, became overconfident, and acted with delay in imposing a new set of restrictions in the wake of the second wave during the autumn of 2020. That proved to have grave public health consequences. Although our analysis shows that capacity-related factors slowed initial responses to the pandemic, their likely importance for adopting measures to the pandemic's continuing evolution remains to be systematically investigated.

Our analyses suggest that societies with higher interpersonal trust, trust in government and general freedom scores reacted slower to the spread of the

pandemic. It could be that where trust is high, the government does not need to intervene with restrictive measures but can rely on people following social distancing recommendations. Countries with higher freedom might have also been more reluctant to restrict the personal liberties and freedoms of citizens that come with lockdowns. Historical legacies might play a role in accounting for these associations as well, with countries in CEE with more recent experiences of authoritarianism being faster in closing schools and public spaces, imposing lockdowns and even curfews, and restricting the free movement of its citizens. But, as the end of 2020 shows, even countries with relatively high levels of trust find it hard to sustain compliance with the lockdowns. Indeed, differential success in managing the pandemic over the longer term may increase or erode public trust.

It is also remarkable that that we find evidence for party-political influences, even at this early stage of the pandemic, with more right-wing and traditional/authoritarian/nationalist governments being marginally faster in imposing national lockdowns and closing down schools. This fits evidence from the US, where the party affiliation of the state governor made a difference for the timing of policy restrictions (Adolph et al., 2020). In Europe, we find no evidence that *economic* left-right positions played a role, however.

From the institutional factors that we examined, regionalism and federalism have significant negative associations with the speed of the response, but the number of chambers of the national legislature does not. So, while more complex vertical distribution of power within the state might have impeded the speed and scope of the policy reactions (as evidence from Germany also suggests), horizontal constraints on government action have not played a role. This is also in line with the lack of significant effects for the type of government (minority, caretaker or majority) and the number of governing parties in the coalition. This lack of evidence for effects is perhaps explained by the fact that most governments passed some kind of emergency measures that strengthened the executive, streamlined decision making, and delegated daily management of the pandemic to special councils and committees.

Overall, our results suggest that factors related to administrative capacities and organizational arrangements had greater influence on the speed with which the European countries adopted different policy measures to combat the spread of the COVID-19 pandemic compared to factors related to institutional constraints. But in the management of a long-lasting crisis, it is highly unlikely that conflicts can be contained for long, and politics will likely return. Indeed, the management of the later stages of the pandemic after the summer of 2020 and in 2021 show much greater scope for influence of politics, the constraining role of low societal trust and limited administrative capacity for sustaining lockdowns and other restrictive measures and compliance with the government measures.

Note

1. On the connections between political regimes and crisis management capacity, see Mao (2021).

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No potential conflict of interest was reported by the author(s).

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