Election Politics and Health Policy during the COVID-19 Pandemic[1]

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Abstract: If incumbent politicians believe that constituents "vote with their pocketbooks", then those facing upcoming elections may be less willing to suppress or regulate economic activity in response to crisis. We study this issue in the context of lockdown policies during the COVID-19 pandemic and find mixed evidence that election timing affected lockdown stringency. On one hand, country-level policies were 34% and 23% looser when presidents or prime ministers faced an election "soon" - within three or six months - after the initial outbreak. On the other hand, a governor's political party, rather than election timing, explains most of the cross-U.S. state variation in lockdown stringency. States with Republican governors had policies that were 10% looser when controlling for other factors. The findings indicate that political considerations matter for policy setting, and they suggest that mismatches in election timing and party affiliation are obstacles to cross-border coordination on infectious disease policy.

1. Introduction

Due to global growth in democracy over the past century, elections are now a regular part of most people's lives. The conventional wisdom is that people "vote with their pocketbooks" meaning a jurisdiction's economic performance at election time is a primary determinant of an incumbent's re-election prospects. Empirical research supports this view, although partisanship

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sometimes attenuates the dominance of economic considerations in voting decisions (see Lewis-Beck et al. 2008, Gerber and Huber 2010, Erikson and Wlezien 2014).

The belief that people vote with their pocketbooks gives incumbent politicians incentives to adjust policies so to synchronize peak economic performance with election timing. For example, research demonstrates that tax policy (a salient economic issue for voters) is affected by the timing of election cycles due to the expectation that raising (lowering) taxes decreases (increases) one's chance of re-election (see e.g., Peltzman 1992, Ahuja 1994 , Geys and Vermeir 2008). This behavior is consistent with formal theory in which incumbent incentives to enact policy that improves economic outcomes, at least in the short-run, increase with proximity to the next election (e.g., Martinez 2009).

The research linking economic policy to election proximity raises questions that motivate this study. Does proximity cause incumbents to enact policies that increase short-run economic performance at the expense of long-run performance? Does proximity affect an incumbent's willingness to tradeoff pro-economy policies with other electorate interests such as those related to public health?

We study these questions in the context of policy towards the COVID-19 health pandemic. The pandemic forced incumbent politicians to consider short-run tradeoffs in health protections against the economic costs of restricted business activity.[2] It may have also given them incentives to implement or withhold restrictions on commerce in a way that best synchronizes positive

[2] The common perception is that there is a short-run tradeoff between economic output and public health (see Hall 2020) and that public policy affects this tradeoff. Some research, however, suggests that public policy may do little to affect the actual tradeoff if global and behavioral forces are more important than local policy (see Lin and Meissner 2020).

economic conditions with the timing of the next election, regardless of forecasted or anticipated long-term policy effects.[3]

We develop and test the hypothesis that election timing will affect the stringency of COVID-19 lockdown restrictions at the onset of the outbreak. The hypothesis builds from theoretical intuition about a contagious disease (e.g., COVID-19) that expands until herd immunity is reached and then recedes. Economic productivity at any point in time depends on the extent to which policy suppresses economic activity, and on the infected proportion of the population, which in turn depends on public policy that can flatten infection rates. The timing of an election – which we assume is randomly determined prior to a jurisdiction's unanticipated outbreak – influences the incumbent's choice of loose vs. strict restrictions. Incumbents up for election soon after an initial outbreak will prefer less restrictive policies when compared to incumbents up for election later in time due to anticipated negative effects of restrictive lockdown policies on economic performance.

The empirical tests analyze nation-level policy across the world and state-level policy within the United States. To measure lockdown policy responses, the outcome variable of interest, we employ the Oxford Stringency Index.[4] To measure electoral timing, which is our key explanatory variable, we have assembled data on the scheduled timing of elections for executives in national governments (e.g., presidents and prime ministers) and of governors in U.S. states. Causal identification relies on the exogeneity of election timing with respect to regional outbreaks of COVID-19. This assumption is supported by balancing tests that show, at least within continents

[3] Several media sources have highlighted this issue. *U.S. News*, for example, describes the Protect Our Care poll on this issue. It reported that 53% of survey respondents - including a fourth of Republicans – thought that Donald Trump was pushing states to relax COVID-19 restrictions so he could improve his re-election chances (Milligan 2020).

[4] This index has been used primarily as an explanatory variable to measure the effects of lockdown policy on infection rates or economic activity (e.g., Ashraf 2020, Hale et al. 2020, Hsiang et al. 2020, Lin and Meissner 2020).

and U.S. regions, election timing is not systematically correlated to other plausible predictors of lockdown policy stringency.

The empirical findings offer mixed support for the proposition that election proximity will result in less restrictive lockdown policy. The evidence indicates that countries enacted COVID-19 restrictions that were 34% to 23% looser when presidents or prime ministers faced an election within three or within six months of the initial outbreak in their country. Within the U.S., however, a governor's party affiliation, rather than election timing, explains most of the variation in lockdown policy stringency. States with Republican governors had policies that were 10% looser after an outbreak than states with Democrats when controlling for other factors.

2. Theoretical Intuition

To motivate the empirical tests, consider potential dynamic relationships between a contagious disease, policy to slow its spread, and economic output. Assume political incumbents try to maximize their probability of election success and that the politician thinks this success is a function only of output per capita at election time, y_t. Further assume that $y_t = f(l - s_t)(1 - h_t)$, where l is a (fixed) endowment of labor and s_t is the number sick with a contagious disease and unable to work. The function f is decreasing is s_t. The variable $h_t \in [0,1)$ represents the stringency of policy to slow disease spread. We conceptualize the policy as representing the proportion of an economy's output that is suppressed.

To predict incumbent behavior, we develop intuition based on expectations about the spread of COVID-19 in early 2020, at the time of the outbreak. Conventional wisdom, and scientific modeling (e.g., Anderson et al. 2020), envisioned disease dynamics in the absence of policy (i.e., when $h_t = 0$) roughly as follows. The infected population, s_t, is initially at zero until an unexpected outbreak occurs at $t = 0$. From $0 < t < T_I$, s_t is increasing until herd immunity is

achieved at $\sum_{t=0}^{T_I} s_t = S_I$. The infected population decreases after S_I is achieved and then approaches zero. These dynamics imply that y_t decreases until herd immunity is reached and then approaches the pre-outbreak level as population immunity grows.

Scientific modelling in early 2020 (e.g., Anderson et al. 2020) suggested that policy stringency would "flatten the curve" meaning a policy enacted at *t = 0* would slow disease spread, causing the cumulative number of infected people to peak later in time. This means the timing of herd immunity, T_I, is further delayed with increases in h (whereas S_I is independent of h). The policy h has direct and indirect effects on y_t.[5] The direct effect is a negative shock, causing y_t to drop at *t = 0* and remain below pre-outbreak levels until the policy is revoked. The indirect effect occurs because h slows the rate of growth in s_t and this changes the proportion of the population that is sick at any point in time. Assuming the policy is revoked after herd immunity is achieved, y_t will converge to pre-outbreak levels as the rate of recoveries overtakes the rate of new infections.

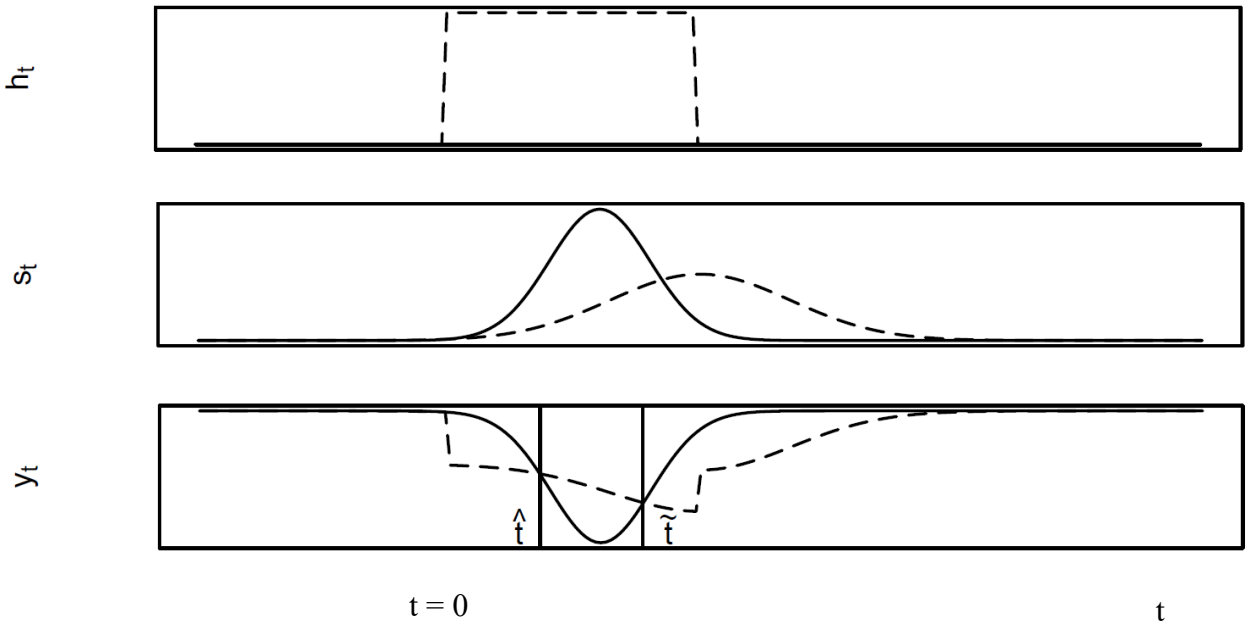
Figure 1 illustrates these anticipated dynamics for two scenarios, $h = 0$ and $h > 0$. The disease is assumed to spread as a symmetric, normal distribution that begins to grow at $t = 0$. Herd immunity is obtained at the peak of each curve, which occurs later in time when $h > 0$. Output is greater under the $h = 0$ scenario for $0 \leq t \leq \hat{t}$ and for $t > \tilde{t}$. Output is greater under the $h > 0$ scenario for $\hat{t} < t \leq \tilde{t}$.

The dynamics create three distinct time periods relevant to the relationship between election timing and lockdown stringency. An incumbent politician will prefer $h = 0$ to $h > 0$ if she is up for election in an *early period* (before $\hat{t}$) or in a *late period* (after $\tilde{t}$). She will prefer $h > 0$ if she is up for election in the *middle period* (between $\hat{t}$ and $\tilde{t}$). The testable hypothesis is that

[5] This narrative assumes that lockdowns are not accompanied by economic stimulus.

incumbent politicians up for election "soon" or "late" after a disease outbreak will enact loose disease policy relative to politicians up for election during a "middle" time period.[6]

Figure 1
Example of Dynamics of Policy, Infection, and Output



Notes: The top panel depicts a new policy of $h > 0$ that begins at $t = 0$ and ends when herd immunity is achieved. The middle panel depicts the disease stock under $h = 0$ (solid line) and $h > 0$ (dashed line). The bottom panel depicts output under the $h = 0$ (solid line) and $h > 0$ (dashed line). Incumbent politicians up for election between $0 < t < \hat{t}$ will prefer $h = 0$. Incumbents up for election between $\hat{t} < t < \tilde{t}$ will prefer $h > 0$. Incumbents up for election during $t > \tilde{t}$ will prefer $h = 0$.

The hypothesis that incumbents up for election "soon" will prefer loose policy (e.g., $h = 0$) is robust to other assumptions and scenarios but the hypothesis that incumbents up for election in "late" periods will also prefer loose policy is not robust. For example, an incumbent up for election in a "soon" period will prefer a loose policy at $t = 0$ even if she expects a vaccine to be developed during a "late" period. However, an incumbent up for election during a "late" period who expects

[6] The intuition generalizes to comparisons of other polices for $h \in [0,1)$. If the disease infection curve is single peaked in s_t, any increase in policy stringency at $t = 0$ will differentiate an early and a late period during which output under the less stringent policy exceeds output under the more stringent policy. It will also create a middle period during which output is higher under the more stringent policy.

that an effective vaccine (or other pertinent disease information) will be developed before natural herd immunity is achieved may prefer a strict at $t = 0$.

What if the probability of incumbent election success is a function not only of economic output at the time of election, but also of the number of cumulative deaths from the disease proceeding the election? Our intuition is that accounting for this possibility would not change the general prediction that politicians up for election "soon" are more likely to prefer loose policies. Accounting for the possibility, however, would obfuscate any clear intuition about the policy preferences of incumbents up for election in the distant future.

3. Data

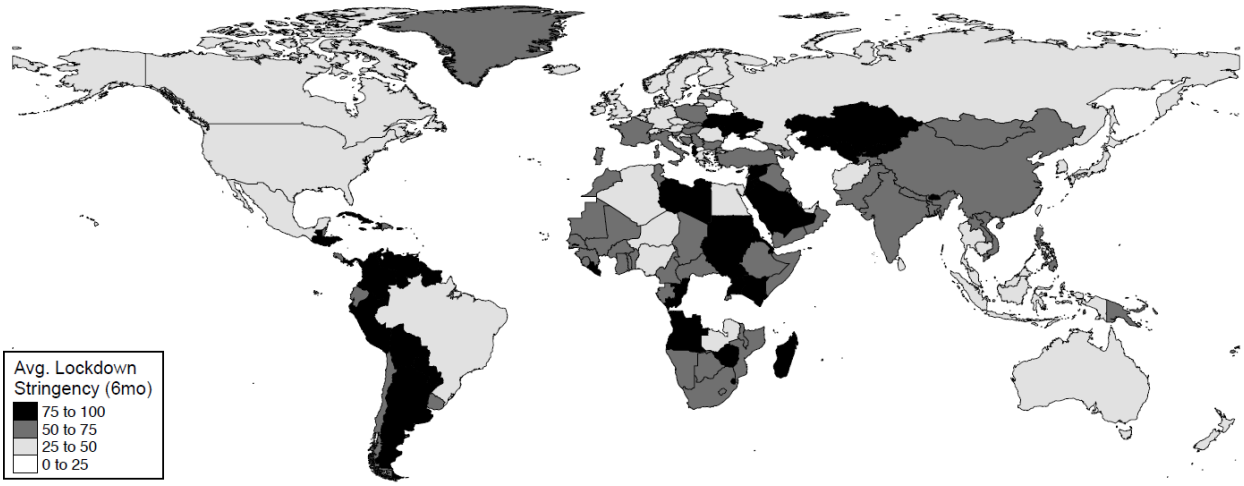
The empirical analysis requires measures for policy stringency and for the temporal proximity of a planned election to the COVID-19 outbreak in each jurisdiction. To measure policy stringency, which is the dependent variable, we employ an index constructed by Oxford University's Coronavirus Government Response Tracker (OxCGRT).[7] Measured at the country and U.S. state level, the index is an ordinal ranking of policies towards economic activity, international and domestic travel, and health system protocol. The index, which aggregates 17 measures of government responses to the pandemic, ranges from 0 to 100, where 100 is the strictest possible lockdown policy (e.g., $h = 1$ in our theoretical framing).

Figure 2 maps average stringency for six months after the time of the first positive COVID-19 case in each country. The strictest lockdowns occurred in countries of Asia, Africa, and South

[7] The index has been used extensively to estimate how government responses have affected COVID-19 health and economics outcomes (see, e.g., Elgin 2020, Ashraf 2020, Hale et al 2020.). We are aware of only one other study, which is a working paper, that studies the relationship between election timing and policy stringency as we do here (see Pulejo and Querubín. 2020).

America as well as in small countries in the Caribbean. Large North American and Western European countries tended to have the loosest policies. The countries with the strictest policies were Honduras (97.5) and El Salvador (93.4). The countries with the loosest policies were Monaco (2.9) and Belarus (8.9).

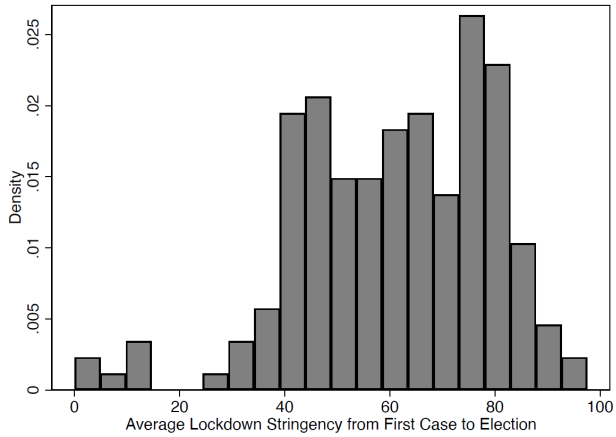
Figure 2
Global Map of Average Lockdown Stringency



Notes: The map plots the average Oxford index from the time of the first positive COVID-19 case in each country and the six months that follow.

Figure 3 shows the distribution of lockdown policy stringency, averaged again over the first six months. Most countries (90%) had average policy stringency greater than 40. The mean of the distribution is 61.7 and the 25th and 75th percentile are, respectively, 47.5 and 77.0.

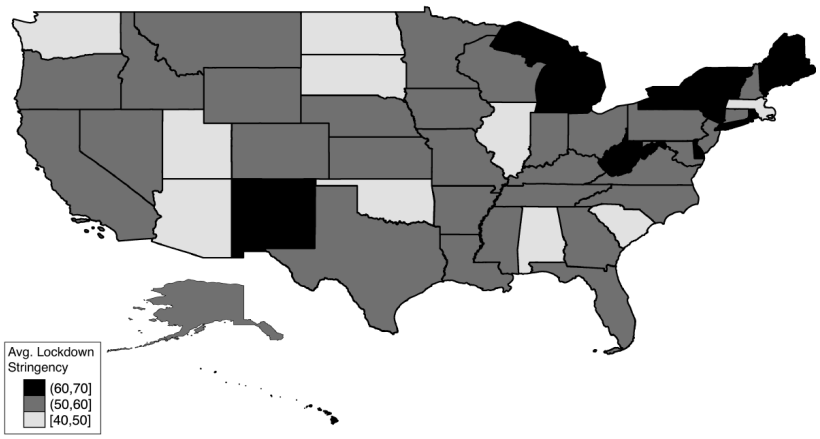
Figure 3
Histogram of Average Lockdown Stringency across Countries



Notes: The histogram plots the average Oxford index from the time of the first COVID-19 case through the six months that follow.

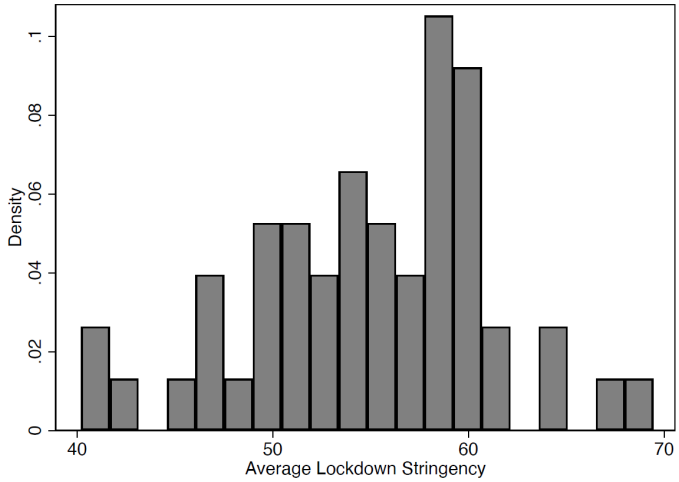
Figure 4 maps the average stringency in each U.S. State for the six months that followed each state's first COVID-19 case. Figure 5 shows a histogram of average stringency across states. In contrast to the cross-country variation, the variation across states is much tighter, ranging from 40 to 70 with a mean of 54.8. The states with the strictest lockdown policies were New Mexico (69.4) and Maine (66.8). The states with the loosest lockdown policies were North Dakota (40.2), Oklahoma (41.5), and Arizona (41.7). The 25th and 75th percentiles are, respectively, 50.7 and 59.0.

Figure 4
Average Stringency Since First Case Across U.S. States



Notes: The map plots the average Oxford index from the time of the first positive COVID-19 case through the six months that follow.

Figure 5
Histogram of Average Lockdown Stringency across U.S. States



Notes: The histogram plots the average Oxford index from the time of the first positive COVID-19 case through the six months that follow.

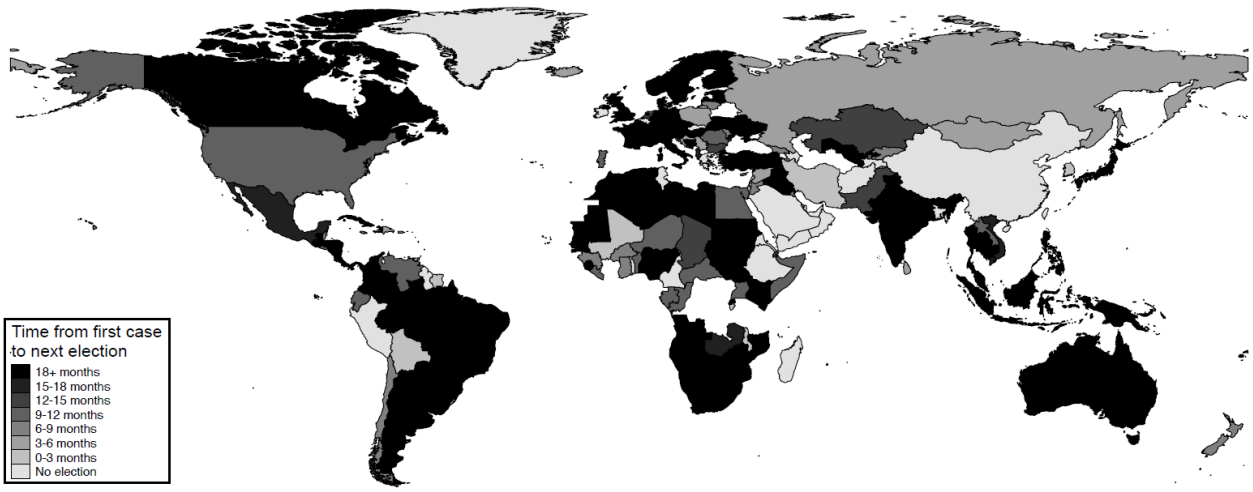
To measure the timing of future elections, we compiled a database of election timing based on information from the International Foundation for Electoral Systems (IFES).[8] To this we add election dates absent in the IFES data by checking and corroborating news sources and national elections departments to compile a complete inventory. In cases where future elections were marked by only the month and year, rather than the day, month, and year, we assumed the election would take place on the 15th day of the month. From this information we calculate the number of days from a country's (or U.S. state's) first COVID-19 case until the next planned executive election (i.e., prime minister for presidential election) and then create monthly bins for our empirical analysis.[9] In the analysis of U.S. states, we focus on whether or not a state's governor was up for election in November 2020.

[8] Other empirical analyses of international elections have constructed similar databases (see, e.g., Girardi 2018 and Kleine and Minaudier 2019).

[9] We focus our analysis on election dates that were planned prior to the COVID-19 outbreak rather than actual election dates, which were delayed because of COVID-19 in some countries such as New Zealand. Distinguishing between elections at the executive and non-executive level is important because the Oxford index is used to approximate the stringency of national level, which we presume is most affected by executive politicians.

Figure 5 maps the countries into seven categories. The categories are: scheduled elections within 3 months after the first case, 3-6 months, 6-9 months, 9-12 months, 12-15 months, 15-18 months, and after 18 months. As Figure 5 shows, 23 democratic countries had elections within 6 months, 62 had elections from 6-18 months, and 81 had elections 18 months or after.[10]

Figure 6
Time from first COVID-19 Case to Next Executive Election

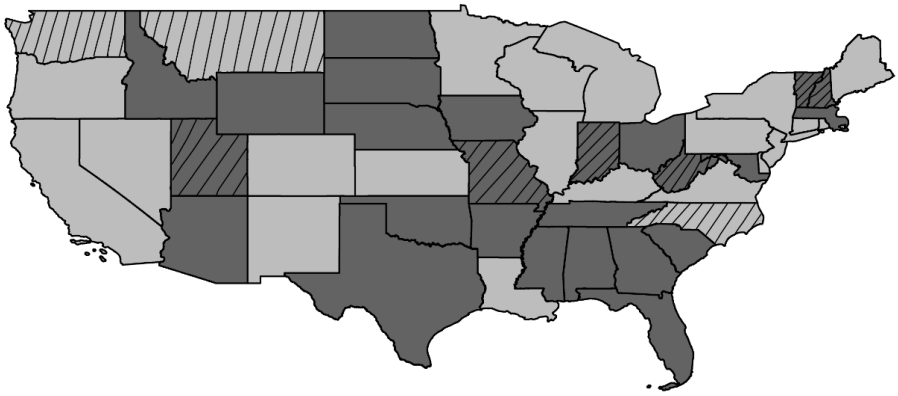


Notes: The map plots the number of months from a country's first COVID-19 case until its next planned executive election. Non-democratic countries (e.g., China) are excluded.

Within the United States, the state executive (governor) elections are held in the first week of November. Election timing is staggered across states so that only a subset of governors are up for election each year. Figure 7 shows the 11 U.S. states that had governor elections on November 3, 2020 along with the political party of the governor incumbent.

[10] The countries with elections scheduled within six months of their first COVID-19 case are: Anguilla, Armenia, Belarus, Bolivia, Burundi, Croatia, Dominican Republic, Falkland Islands, Iceland, Iran, Israel, Macedonia, Malawi, Mali, Mongolia, Poland, Russia, Saint Kitts and Nevis, Serbia, South Korea, Sri Lanka, Suriname and Syria.

Figure 7
U.S. State Governor Elections and Political Party



Note: The dark shaded states had Republican governors when the COVID-19 outbreak began and the light shaded states had Democratic governors. The cross-hairs highlight the 11 states for which governor elections were scheduled in November 2020. Alaska and Hawaii (not shown) had Republican and Democratic governors respectively. Neither had a governor election scheduled in 2020.

4. Empirical Identification and Balancing

The empirical challenge is to estimate the causal effect of election timing on COVID-19 policy in settings where planned election timing – our key independent variable – is not experimentally assigned across countries or across U.S. states. The variation can be treated as plausibly exogeneous, if not explicitly random, if election timing is not systematically correlated with other country and state characteristics that are likely to affect a jurisdiction's propensity to adopt strict or loose policy. Across countries, these factors could include geographic location, demographic composition, stage of economic development, and political variables such as the extent to which the country is a true democracy. The same factors could matter across U.S. states in addition to the party of incumbent governors (Democrat or Republican).

Table 1 shows a balancing test for different measures of a country's political, geographic, and demographic conditions measured in 2019, prior to the COVID-19 outbreak. In terms of political characteristics, we employ an index measuring the extent to which a country is a true democracy. The index comes from the Economist Intelligence Unit's (EIU) Democracy Index

2019 report.[11] The EIU index is a 0 to 10 scale with a score of 10 considered to be a government that is transparent, responsive, and free from corruption. We also employ an indicator variable for whether a country is under federalist or unitary rule, which may affect the ability to coordinate policy across local jurisdictions; this in turn, could affect the average degree of national policy stringency. To this we add covariates to measure population, population density, the percentage of the population over 65 years old, and GDP per capita. We also include longitude and latitude, measured at each country's geographic centroid.

The balancing tests differentiate countries based on whether or not the planned executive election was six or three months after the first COVID-19 case. In the full sample, 23 of the 186 countries had an election scheduled within six months and 10 countries had an election scheduled within three months. The six and three month thresholds represent our binary measures for whether or not an election is "soon" after a country's outbreak, but the empirical estimates examine continuous thresholds of election timing as described below.[12]

As Table 1 shows, the mean of a country's average stringency index after the outbreak, which is our dependent variable of interest, is significantly lower in countries that had executive elections scheduled within six or three months after the first COVID-19 case. However, there are no significant differences across the means of the other covariates. This finding mitigates concerns that election timing is systematically related to variables that could correlate with both election timing and a country's COVID-19 lockdown policy stringency. In Appendix Table A1, we show the balancing tests for a subsample that drops non-democratic countries. Dropping these countries

[11] http://www.eiu.com/topic/democracy-index

[12] For perspective, it is worth noting that epidemiology simulations in March 2020, at the onset of the COVID-19 outbreak, suggested that an unbated epidemic would last around six months (see Anderson et al. 2020).

does not change the key finding: none of the covariates are systematically related to a planned election within six of three months after the first case.

Table 1
Balancing Tests for Covariates in Cross-National Analysis

	Election within 6 Months of 1st Case			Election within 3 Months of 1st Case		
	Mean|Yes (1)	Mean|No (2)	p-value, diff. (3)	Mean|Yes (4)	Mean|No (5)	p-value, diff (6)
Avg. Stringency Index	48.3	62.8	(0.00)	44.8	61.8	(0.01)
Democracy Index	5.5	5.5	(0.97)	5.4	5.5	(0.87)
Federalist Country	0.09	0.13	(0.60)	0.10	0.12	(0.83)
Log of Population	15.2	15.4	(0.77)	15.7	15.4	(0.65)
Log of Population Density	4.0	4.4	(0.28)	4.4	4.4	(0.97)
% of Population > 65	10.3	8.5	(0.25)	7.1	8.8	(0.42)
Log of GDP per Capita	9.4	9.3	(0.66)	8.9	9.3	(0.38)
Longitude	15.7	14.1	(0.91)	14.3	13.9	(0.98)
Latitude	25.3	19.0	(0.25)	14.8	20.0	(0.49)

Notes: This table compares means for the countries with and without executive elections scheduled within 6 and 3 months after the first COVID-19 case. The full sample is 186 countries; 23 countries had scheduled elections within 6 months and 10 countries had scheduled elections within 3 months. The column showing p-values for differences are based on t-tests of means under the assumption of equal variance.

The lack of systemic correlations between "soon" elections and the covariates reduces but does not eliminate concerns about omitted variable bias. We cannot rule out the possibility that the list of regression covariates omits other variables that are correlated with both election timing and COVID-19 lockdown policy. To address this possibility, we include continent fixed effects in some regression estimates. Doing so further controls for geographic, cultural, and political factors that might systematically vary across but not within continents and also affect election timing and COVID-19 policy.

Table 2 shows balancing tests for covariates used in the analysis of U.S. state-level COVID-19 policy. It compares covariate means for the 11 states with governor elections in November 2020 with means for the 39 states without governor elections. All of the covariates are measured in 2019, before the pandemic. The balancing tests indicate that, across U.S. states, the

timing of governor elections is not systematically related to the political party of the incumbent governor or a state's population density, median family income, and longitude. Election timing is systematically related to a state's aggregate population and, to a lesser extent, a state's longitude. However, these correlations diminish when we add fixed effects for the four U.S. regions so that the comparisons of means are made within regions. After this adjustment, the p-value for the difference in means for state population increases from 0.05 to 0.12. The p-value for the difference in means for latitude increases from 0.19 to 0.29.

Table 2
Balancing Tests for Covariates in Cross-State Analysis

	Governor Election in November 2020		
	Mean|Yes	Mean|No	p-value, diff.
	(1)	(2)	(3)
Avg. Stringency Index	53.7	55.2	(0.48)
Party of Incumbent (=1 if Rep.)	0.64	0.49	(0.39)
Log of Population	14.6	15.3	(0.05)
Log of Population Density	4.27	4.56	(0.55)
% of Population > 65	17.9	17.2	(0.30)
Log of Median Family Income	11.1	11.1	(0.87)
Longitude (at centroid)	-91.1	-94.5	(0.61)
Latitude (at centroid)	42.0	39.0	(0.19)

Notes: This table compares means for the 11 U.S. states with governor elections in November 2020 and the 39 U.S. states without governor elections. The average stringency variable measures the average of the stringency index for each state for the six-month duration following the first COVID-19 case. All other covariates are measured in 2019. The column showing p-values for differences are based on t-tests of means under the assumption of equal variance.

In summary, the fact that most covariates are uncorrelated with having a November election gives us confidence that cross-section regression estimates will not be highly contaminated by omitted variable bias. While we can control directly for population and latitude, which are related to November 2020 elections, these correlations raise concerns that other variables inevitably omitted from the analysis could bias the estimates. We address this concern by including U.S. region-level fixed effects in the regression. The fact that these fixed effects

diminish differences between population and latitude suggest they may also diminish any omitted variable bias.

5. Empirical Estimates

We estimate the effects of election timing on COVID-19 policy stringency using non-parametric and parametric approaches. We first present the cross-national estimates and then present the cross-state estimates.

A. Cross-National Estimates

The dependent variable for our cross-national estimates is as follows. For any country without a scheduled executive election beyond six months after its first COVID-19 case, the dependent variable is simply the average stringency of COVID-19 policy for that six-month period. For countries that had an executive election scheduled within six months, the dependent variable is the average stringency from the first case until the time of election. Constructing the dependent variable in this way focuses on policy setting during a time period that is exclusively under the control of the incumbent politician.

The theoretical intuition, described in Section 2, implies an inverted U-shaped relationship between election timing and COVID-19 lockdown policy stringency. That is, incumbents up for election soon or far in the future, relative to the first disease case, will favor looser policies when compared to incumbents up for election in the middle time periods. However, as we emphasize in Section 2, there are several reasons to doubt that COVID-19 lockdown policy preferences for incumbents up for election in the middle versus distant future will systematically differ. For this reason, we estimate a version of equation (1)

$$(1) \quad Stringency_j = \alpha + \beta_1 SoonElection_j + \beta_2 DistantElection_j + \delta X_j + \epsilon_j$$

where country j's lockdown stringency is a function of two indicator variables for election timing, within six months (a "soon" election) and after 18 months (a "distant" election). [13] The omitted period captures countries with elections in the "middle" time span. The theoretical intuition suggests $\beta_1 < 0$ and $\beta_2 < 0$ although the prediction about β_1 is stronger and requires fewer speculative assumptions when compared to the prediction about β_2.

The evidence in Table 3 is mixed. On one hand, we find that countries having elections within six months had significantly looser COVID-19 lockdown policies (i.e., $\hat{\beta}_1 < 0$). The estimates range from -16.9 to -14.5. For perspective, the standard deviation of the dependent variable is 18. Because the mean of average stringency across all countries is 61, the estimates imply that having an election within 6 months caused a reduction in mean stringency of 23 to 28 percent. These findings are robust to the inclusion of longitude and latitude , continent fixed effects, and the inclusion or omission of countries that are not democracies. On the other hand, we fail to reject the null hypothesis that $\hat{\beta}_2 = 0$ meaning there is no evidence that COVID-19 lockdown policy was different for countries with elections after 18 months of their first case when compared to countries with elections during the 6-18 month time frame.

[13] Non-democratic countries are considered to have elections more than 18 months after the first COVID-19 case. As noted above, the six month period corresponds with simulations in March 2020 suggesting an unabated epidemic might last six months (Anderson et al. 2020).

Table 3
Cross-National Effects of Election Timing on COVID-19 Policy

	All Countries			Excludes Non-Democracies		
	(1)	(2)	(3)	(4)	(5)	(6)
Election within 6 Months	-16.373**	-15.485**	-16.866**	-15.815**	-14.466**	-16.323**
	(0.014)	(0.023)	(0.011)	(0.018)	(0.033)	(0.013)
Election after 18 Months	-2.122	-2.161	-1.818	-1.692	-1.167	-1.058
	(0.476)	(0.470)	(0.545)	(0.588)	(0.714)	(0.740)
Democracy Index	-0.463	-1.250	-0.903	-0.483	-1.256	-0.787
	(0.661)	(0.303)	(0.437)	(0.673)	(0.335)	(0.529)
Federalist Country	-2.328	-3.306	-4.143	-1.414	-2.500	-3.717
	(0.520)	(0.330)	(0.223)	(0.723)	(0.501)	(0.324)
Log of Population	-2.046**	-1.848**	-2.100**	-2.374**	-2.229**	-2.377**
	(0.023)	(0.037)	(0.018)	(0.014)	(0.018)	(0.013)
Log of Pop. Density	-1.304	-0.824	-0.683	-1.449	-1.028	-0.983
	(0.185)	(0.421)	(0.539)	(0.161)	(0.328)	(0.401)
% of Population > 65	-1.126	0.697	-1.427	-2.225	-0.174	-4.081
	(0.658)	(0.811)	(0.627)	(0.478)	(0.962)	(0.271)
Log of GDP per Capita	-4.456***	-3.484**	-4.073***	-3.966**	-3.089	-3.912**
	(0.002)	(0.014)	(0.009)	(0.046)	(0.118)	(0.048)
Longitude		-0.062**	0.064		-0.065**	0.042
		(0.019)	(0.344)		(0.016)	(0.582)
Latitude		-0.103*	0.019		-0.098	-0.026
		(0.085)	(0.850)		(0.107)	(0.814)
Continent Fixed Effects			x			x
Adjusted R^2	0.257	0.305	0.337	0.265	0.317	0.351
Observations	143	143	143	129	129	129

Notes: p-values based on robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01. The omitted time period is the 6-18 month window for elections following a country's first COVID-19 case. Columns 3 and 6 included continent fixed effects. Columns 4-6 omit the countries in the sample that are not democracies. For Columns 1-3, these countries are assumed to have elections after 18 months.

Table 4 shows more flexible estimates. Here we create election timing indicators for three months segments corresponding with Figure 6 (e.g., 0-3 months, 3-6 months, 6-9 month). The omitted time-period is elections within 12-15 months. The results indicate that COVID-19 lockdown policy was systematically looser if incumbents were up for election within 0-3 months and, to a lesser extent, within 3-6 months. For example, the coefficients ranging from -22 to -27 indicate that countries with incumbents up for elections within 0-3 months had policies that were much weaker than countries with incumbents up for election in 12-15 months. These COVID-19 lockdown policies were 34 to 44 percent looser than the mean policies across all countries. Countries with incumbents up for election within 3-6 months had policies that were 17 to 21

percent looser than the mean across all countries. There is no evidence of systematic differences in lockdown policies across those countries with elections beyond six months of their first COVID-19 case.

Table 4
Cross-National Estimates with Seven Election Timing Bins

	All Countries			Excludes Non-Democracies		
	(1)	(2)	(3)	(4)	(5)	(6)
Election, 3 Months	-22.024*	-24.757**	-26.928**	-20.970*	-23.199**	-25.573**
	(0.057)	(0.026)	(0.010)	(0.077)	(0.044)	(0.020)
Election, 3-6 Months	-12.557*	-12.014	-13.011*	-11.400	-10.658	-12.433
	(0.083)	(0.117)	(0.081)	(0.139)	(0.200)	(0.131)
Election, 6-9 Months	-0.519	-2.191	-1.581	0.379	-0.838	-0.942
	(0.910)	(0.643)	(0.726)	(0.941)	(0.879)	(0.860)
Election, 9-12 Months	-0.476	-4.873	-4.477	0.462	-3.500	-3.084
	(0.925)	(0.326)	(0.362)	(0.932)	(0.528)	(0.579)
Election, 15-18 Months	-7.633	-10.879	-9.757	-6.535	-9.282	-9.346
	(0.353)	(0.234)	(0.289)	(0.460)	(0.345)	(0.342)
Election, 18+ Months	-2.918	-5.071	-4.496	-1.969	-3.646	-3.636
	(0.459)	(0.190)	(0.226)	(0.670)	(0.452)	(0.440)
Covariates	x	x	x	X	x	X
Longitude & Latitude		x	x		x	X
Continent Fixed Effects			x			X
Adjusted R^2	0.269	0.327	0.359	0.277	0.336	0.371
Observations	143	143	143	129	129	129

Notes: p-values based on robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01. The omitted time period is the 12-15vmonth window for elections following a country's first COVID-19 case. Columns 3 and 6 included continent fixed effects. Columns 4-6 omit the countries in the sample that are not democracies. For Columns 1-3, these countries are assumed to have elections after 18 months.

Table A2 in the appendix employs a continuous measure of temporal distance from the first COVID-19 case until elections along with its squared term by estimating equation (2).

$$(2) \quad Stringency_j = \alpha + \gamma_1 DaysToElection_j + \gamma_2 DaysToElection^2{}_j + \delta X_j + \epsilon_j$$

The evidence from these parametric tests, although statistically imprecise, is roughly consistent with evidence from the non-parametric tests in Table 4. In Table A2, there is a positive relationship between COVID-19 lockdown policy stringency and days to election ($\hat{\gamma}_1 > 0$) that diminishes as election distance grows ($\hat{\gamma}_2 < 0$). However, these estimates are imprecise and are generally statistically insignificant by conventional standards.

B. Cross-State Estimates

Table 5 shows our cross-state estimates. The dependent variable is the state's average COVID-19 lockdown policy stringency over six months following each state's first COVID-19 case. The key independent variable is an indicator that equals one for the 11 states with governor elections in November 2020. Column 2 adds controls for state longitude and latitude. Column 3 adds fixed effects for four U.S. regions, and Column 4 adds fixed effects for nine U.S. regions.

Table 5
Effects of 2020 Governor Election on COVID-19 Policy

	(1)	(2)	(3)	(4)
Election in November 2020	-2.210	-2.238	-1.801	-2.971
	(0.234)	(0.243)	(0.348)	(0.172)
Party of Incumbent	-5.509***	-5.864***	-5.903***	-5.852***
(=1 if Republican)	(0.003)	(0.003)	(0.002)	(0.002)
Log of Population	-1.207	-0.230	0.309	8.249
	(0.897)	(0.980)	(0.973)	(0.382)
Log of Pop. Density	1.454*	0.422	0.067	-0.725
	(0.071)	(0.740)	(0.961)	(0.638)
% of Population > 65	-1.561	-2.310	-2.323	-10.702
	(0.875)	(0.809)	(0.808)	(0.283)
Log of Median Fam. Income	-8.109	-3.898	-6.105	-9.955
	(0.141)	(0.566)	(0.443)	(0.330)
Longitude		0.073	0.042	0.082
		(0.330)	(0.695)	(0.618)
Latitude		-0.079	-0.039	-0.181
		(0.726)	(0.870)	(0.427)
Region 1 Fixed Effects			x	
Region 2 Fixed Effects				X
Adjusted R^2	0.212	0.211	0.226	0.202
Observations	50	50	50	50

Notes: p-values based on robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01. Column 2 includes fixed effects for 4 U.S. Census Regions: Northeast, Southeast, Midwest, and West. Column 3 includes fixed effects for 9 U.S. Census regions: New England, Middle Atlantic, South Atlantic, East South Central, West South Central, East North Central, West North Central, Mountain, and Pacific.

The results in Table 5 indicate that, as was the case with the cross-national estimates, U.S. states with upcoming executive elections had looser COVID-19 lockdown policies. The coefficients range from -1.8 to -3.0. For perspective, the standard deviation of policy stringency across states is 6.4 and the mean is 54.5, implying that states with upcoming elections had policies

that were 3.3 to 5.5 percent less stringent. These estimated effects are much smaller than estimates from the cross-national regressions. Moreover, the coefficients in the state-level analysis are statistically insignificant with p-values for t-tailed tests ranging from 0.17 to 0.35.

The political party of incumbent governors is the key determinant of COVID-19 lockdown policy across U.S. states. The coefficient estimates on the indicator for Republican governor ranges from -5.5 to -5.9, representing a 10 to 11 percent decrease in stringency relative to the mean. In the U.S. at least, COVID-19 lockdown policy was highly political. The findings in Table 5 suggest that partisanship dominated the traditional electoral incentive of incumbents to focus on economic performance in the run-up to elections.

6. Conclusions

Do incumbent politicians adjust policies in an attempt to synchronize peak economic performance with election timing? Conventional wisdom and social science research suggests they do, although partisanship can sometimes attenuate the dominance of economic considerations in voting decisions (Lewis-Beck et al. 2008, Gerber and Huber 2010, Erikson and Wlezien 2014). Does this wisdom and research extend to health policy during a novel health pandemic such as COVID-19?

We find mixed evidence. In a cross-national analysis of countries, there is evidence that election proximity significantly affects policy. In countries with incumbents up for election within three months of their initial outbreak, COVID-19 lockdown policies were 34% to 44% looser than in countries with incumbents up for election after three months. In countries with incumbents up for election within six months of initial outbreak, COVID-19 lockdown policies were 23% to 28% looser than in countries with incumbents up for election after six months. Across U.S. states, however, the political party dominates. States with Republican governors had policies that were

10% looser than states with Democrat governors when controlling for other factors. There is, at best, weak evidence that COVID-19 lockdown policies were slightly looser in states where governors were up for election in November 2020.

Overall, the cross-national findings suggest that incumbents enacted policy with the mindset that constituents would likely "vote with their pocketbooks," even in the context of policy setting over an unprecedented health pandemic. In the U.S., however, because COVID-19 became highly political, party affiliation dominated policy choices and election timing played a minor role.

What are the broader implications? Did the relatively random selection of election timing cause significant variation in death and suffering around the world? And did partisanship in the U.S. make election timing inconsequential in this regard? Our findings suggest the answer is "yes" to both questions. However, we cannot definitely say whether the political incentives generated by election proximity and partisanship increased or decreased human welfare. This assessment depends on whether the direct health benefits of COVID-19 lockdown policies outweighed the indirect harms caused by the suppression of economic activity. Only time and rigorous study can evaluate the long run costs and benefits of lockdown policies.

Our study raises questions for future research about the effects of mismatches in election timing on the likelihood of interjurisdictional coordination on infectious disease policy. Our analysis implies that mismatches in election timing, or in political party, will frustrate interjurisdictional coordination on policy because cross-border differences will give neighboring political incumbents incentives to respond differently. Whereas a global or regional policy towards COVID-19 could conceivably optimize a balance between health risk and economic damage from the virus that spreads across jurisdictions, uncoordinated policy may fail to do either. We leave this important issue for future study.

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8. Appendix

Table A1
Balancing Tests for Covariates in Cross-National Analysis that Omit Non-Democracies

	Election within 6 Months of 1st Case			Election within 3 Months of 1st Case		
	Mean|Yes	Mean|No	p-value, diff.	Mean|Yes	Mean|No	p-value, diff
	(1)	(2)	(3)	(4)	(5)	(6)
Avg. Stringency Index	48.3	62.4	(0.00)	44.8	61.4	(0.02)
Democracy Index	5.5	5.7	(0.66)	5.4	5.7	(0.64)
Federalist Country	0.09	0.13	(0.54)	0.10	0.13	(0.79)
Log of Population	15.2	15.5	(0.66)	15.7	15.4	(0.70)
Log of Population Density	4.0	4.4	(0.30)	4.4	4.4	(0.96)
% of Population > 65	10.3	9.1	(0.43)	7.1	9.4	(0.30)
Log of GDP per Capita	9.4	9.3	(0.70)	8.9	9.3	(0.34)
Longitude	15.7	11.3	(0.76)	14.3	11.8	(0.92)
Latitude	25.3	17.9	(0.18)	14.8	19.2	(0.57)

Notes: This table compares means for the countries with and without executive elections scheduled within 6 and 3 months after the first COVID-19 case. The full sample is 162 countries, which is fewer than the number in Table 1 because this table excludes non-democracies. The column showing p-values for differences are based on t-tests of means under the assumption of equal variance.

Table A2
Cross-National Estimates with Continuous Measure of Distance to Election

	All Countries			Excludes Non-Democracies		
	(1)	(2)	(3)	(4)	(5)	(6)
Days Until Election	0.018	0.017	0.019	0.023	0.024	0.025*
	(0.174)	(0.185)	(0.144)	(0.135)	(0.102)	(0.097)
Days until Election^2	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.248)	(0.285)	(0.246)	(0.167)	(0.120)	(0.133)
Covariates	x	x	x	x	x	x
Longitude & Latitude		x	x		x	x
Continent Fixed Effects			x			x
Adjusted R^2	0.211	0.268	0.291	0.221	0.285	0.308
Observations	143	143	143	129	129	129

Notes: p-values based on robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.