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ABSTRACT

The outbreak of COVID-19 has called for swift action by governments, often involving the adoption of restrictive measures such as lockdowns. In this context, leaders have faced a trade-off between imposing stringent measures to limit the contagion, and minimizing the costs on their national economy, which could impact their electoral prospects. Leveraging on both the timing of elections and the constitutional term limits faced by leaders, we document how incumbents who can run for re-election implement less stringent restrictions when the election is closer in time. The effect is driven by measures more likely to have a negative economic impact. This shows how electoral concerns help explain the observed differences in the response to COVID-19 across different countries.

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The violent global outbreak of COVID-19 has posed unprecedented challenges to political leaders across the world. Most public health experts agree on the importance of restrictive measures such as lockdowns to slow the spread of the virus, ease the burden on the health care system and ultimately, save lives (de Figueiredo et al., 2020). However, there has been substantial variation in the stringency of governments' responses. While the severity and timing of the outbreak may explain part of the variation, several other factors have been pointed out as potential contributors (Frey et al., 2020). In particular, restrictive measures have been shown to hurt the economy (Pew, 2020), and distribute their burden unequally across the population (Galasso, 2020). In this scenario, elected leaders must often trade-off the advice of experts with the preferences of voters, who will ultimately judge their performance.

In this respect, public opinion polls on COVID-19 for a wide set of countries show that economic conditions – rather than health – tend to be the main concern of voters (Oliver, 2020). Anti-lockdown protests have sparked across the globe (Sly, 2020). Political leaders, aware of the potential political costs of a depressed economy, have often responded by easing these restrictions.

For example, in response to President Akufo-Addo's decision to end a 21-day lockdown, a Ghanaian hawker expressed that "It was a war-like situation. We had no money and we couldn't step out to work to earn some cash. God bless our president". The opposition, through the words of the former President John Mahama, had a quite different reaction, labeling the decision "a gamble", and echoing health experts' concerns that it was premature (Akinwotu and Asiedu, 2020). The two camps will confront each other at the polls on December 7, 2020, less than 8 months after the end of Accra's lockdown, which dates back to April 20, 2020. On that very same day, Brazil's President Jair Bolsonaro took to the streets against his country's governors, and promised federal efforts to reverse their restrictive measures (BBC, 2020). Bolsonaro, whose stay in the presidency will be at stake in 2022, highlighted how lockdown measures are damaging the country's economy, and called for Brazilian borders to be reopened. Similar considerations have been put forward by the US President Donald J. Trump, who stated that "[...] we have to get our country open again [...] People want to go back, and you're going to have a problem if you don't do it" (Baker, 2020). With the November 2020 elections approaching,

the preservation of the economy has been climbing up the presidential agenda, at the expense of health-related concerns (Vazquez, 2020).

In this paper, we argue that reelection concerns play an important role in explaining the variation in government responses to the COVID-19 epidemic. We build on an existing body of literature that shows that economic downturns negatively impact reelection prospects of incumbents (Dutch and Stevenson, 2008) and that voting behavior is particularly sensitive to the state of the economy close to the election (Healy and Lenz, 2014). Similarly, a long-standing tradition in political economy argues that incumbents' policy choices will greatly differ depending on whether they can run for an additional term in office (Besley and Case, 1995; Ferraz and Finan, 2011). Finally, the literature on political business cycles shows that, cognizant of voter's behavior, incumbents attempt to influence economic performance as the election approaches (Drazen, 2000).

We leverage on the timing of elections and the presence of constitutional term limits to study the effect of re-election concerns on COVID-19-related restrictions. We find that countries where incumbents are up for an additional term and where the upcoming election is closer in time tend to be less stringent, on average. The effect is driven by those policies - like closing workplaces and forbidding internal movement - that may arguably have a more negative impact on the economy. To address concerns with our empirical strategy, we show that the interaction of being up for reelection and proximity to the upcoming election is uncorrelated with a broad set of country covariates. These include other political characteristics, like the leader's ideology and the regime's respect of democratic rule. We also show that results are robust to the use of different measures of stringency, to controlling for different covariates, and are unlikely to be driven by differences in the administrative level at which restrictions are mandated and applied. Our estimates suggest that reelection concerns can explain up to 24% of the variation in the stringency of government's responses.

Measuring Stringency

The typical policy bundle of most governments in the face of COVID-19 consists of a mix of restrictions, welfare support, and healthcare improvements. We focus on the first dimension,

looking at the stringency of measures adopted to stop the spread of the disease. Following the Oxford COVID-19 Government Response Tracker (OxCGRT),[1] we define "stringency" as enacting policies that do one of the following: *(i)* limit individual freedom (of work, movement or gathering), *(ii)* shut down public services and events in order to reduce mobility, or *(iii)* deliver information about the necessity to comply with these measures.

To gauge this particular dimension of government response, we rely on the Stringency Index (SI) computed by OxCGRT. Their online repository provides daily values of the SI for over 150 countries, calculated by averaging and re-scaling 9 different categorical indicators.[2] These indicators are based on the joint efforts of more than 100 contributors, have received the attention of the media (Douglas, 2020), and have been used by other scholars (Frey et al., 2020). More details on the computation of SI can be found in Hale et al. (2020).

The SI for a specific day d goes from 0 to 100, with 0 corresponding to a country c where no restrictions are in place, and 100 designating one where the strictest possible measures are being taken on each of the nine dimensions. Our primary dependent variable, SI_1, is a simple average of SI across all the n days since the first COVID-19 case was detected in country c (call it $d_{1,c}$) until May 29, i.e. the last weekday of May 2020 (call it D):

$$SI_1 = \frac{1}{n} \sum_{d_{1,c}}^{D} SI_d$$

While SI_1 provides a comprehensive picture of a country's stringency across our period of observation, it may fail to account for the variation in the rate of contagion and intensity of the epidemic. For example, a country may have low average stringency because the rate of infection remains very low after the first reported case. To address this, we compare countries' stringency at the same rate of infection. In particular, we define SI_2 as the value of SI for each country *on the day in which it had 1 contagion per 100,000 inhabitants*.[3] Similarly, another

[1] `https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker`. Accessed for data collection on May 29, 2020.

[2] The components of the SI refer to: closing schools, closing workplaces, cancelling public events, forbidding gatherings, limiting public transportation, issuing stay-home requirements, limiting movement within country borders, forbidding international travel, and delivering public information of best practices to limit contagion.

[3] We choose this threshold as it corresponds to a non-negligible rate of infection, which had nonetheless been reached by all but 7 of the countries in our sample as of May 29, 2020 (see Table A1 in the Appendix for details). Our results are robust to the use of both a lower and a higher threshold (of 1 contagion per 200,000 and 50,000 inhabitants, respectively).

concern with SI_1 is that low average stringency may be driven by a very cautious response in earlier stages, when the rate of infection was low, followed by a more stringent response at a later stage. To address this, we define SI_3 as the highest level of stringency (i.e. the maximum value of the OxCGRT SI) attained in each country during our period of observation.

Empirical Strategy

We are interested in how electoral concerns shape leaders' stringency. To measure electoral concerns, we leverage on the interaction of two institutional characteristics of each country, which were predetermined at the time of the COVID-19 outbreak. The first component of the interaction is whether the sitting incumbent is up for reelection. To code this, we combine information on constitutional term limits for the head of government with the number of terms already spent in office by each country's current leader.[4] The second is the proximity to the next election for the country's top executive position at the time of the outbreak, that for ease of interpretation we measure in years. This is gauged by counting the number of days between the first COVID-19 case and the next scheduled election,[5] dividing it by 365, and multiplying the result by -1:

$$Elec\_Proximity_c = -1 \cdot \left[\frac{(d_{election,c} - d_{1,c})}{365} \right]$$

Thus, higher values of $Elec\_Proximity_c$ imply that the election for the head of government is closer in time, with the upper bound of 0 corresponding to a hypothetical country scheduled to have an election on the day of its first confirmed case.

Our sample consists of the set of 65 countries with any constitutional term limits on the head of government included in the OxCGRT dataset as of May 29, 2020 (see Table A1). Our sample is almost entirely restricted to countries with presidential systems, where term limits tend to be more common; the only exception is Thailand.[6] We acknowledge that, given the

[4]We measure constitutional term limits from the online CIA World Factbook, field n. 312 `https://www.cia.gov/library/publications/the-world-factbook/fields/312.html`. Accessed for data collection on June 6, 2020.

[5]While some countries have postponed elections following the outbreak of COVID-19, we still consider the date for which an election had initially been scheduled. We argue that this is the best measure of the electoral horizon that each leader was facing at the time of the outbreak.

[6]We include Thailand since its Prime Minister has a constitutional limit of two 4-year terms in office. Our

use of constitutional term limits as a source of variation in electoral concerns, our sample is both selected and limited in size. While selection limits potentially the generalizability of our results, our sample features countries in all continents with the exception of Oceania.

We also conduct our analysis on the more restricted group of 50 countries that have a two-term limit. For this set of countries, variation is driven by whether the country had a first or second-term president at the time of the COVID-19 outbreak. As illustrated in the Appendix (Table A1), the distribution of years to the next election is similar in countries with incumbents eligible and non eligible for reelection, particularly in the restricted sample.

We estimate OLS regressions of the form:

$$Y_c = \alpha + \beta_1 CanRun_c + \beta_2 Elec\_Proximity_c + \beta_3 (CanRun \times Elec\_Proximity)_c + \epsilon_c \quad (1)$$

where Y_c is the stringency of country c and $CanRun_c$ is a dummy equal to 1 if the incumbent is eligible for reelection.

The estimate of β_1 captures the difference in stringency for countries with incumbents with and without reelection incentives. However, while this coefficient may be informative about the role of electoral concerns, as argued by Ferraz and Finan (2011) having a term-limited incumbent may be correlated with country characteristics or incumbent attributes – such as experience and ability – that may influence the response to the epidemic. Thus, while we use a wide range of observable country and incumbent characteristics to address this concern, this estimate should be interpreted cautiously and is not the main focus of our analysis.

The main coefficient of interest is β_3, which measures the change in stringency following a one-year decrease in the distance to the next election, for a country whose leader is allowed to run for a further term in office. Our key identification assumption here is that the *interaction* of the proximity to the next election and having a leader allowed to re-run is orthogonal to other characteristics that may impact the country's response to the epidemic, and thus isolates the effects of electoral concerns. We discuss and test this key assumption after presenting our main results.

results are robust to the exclusion of Thailand, as well as of any other single country (see Figure A8 in the Appendix).

Results

Table 1 reports the estimates for each of the three measures of stringency and each of the two study samples.

Table 1: Main Results

	(1)	(2)	(3)	(4)	(5)	(6)
	SI_1	SI_1	SI_2	SI_2	SI_3	SI_3
Incumbent Can Run	-16.94**	-18.86**	-19.35*	-19.35*	-19.52**	-17.51*
	(7.023)	(7.121)	(10.27)	(9.995)	(8.772)	(9.970)
Election Proximity	1.706	2.458*	2.764	1.572	2.330	2.051
	(1.352)	(1.289)	(2.069)	(1.682)	(1.670)	(2.039)
Proximity × Can Run	-5.441**	-6.867***	-8.077***	-7.636***	-6.990***	-7.197**
	(2.055)	(2.024)	(2.903)	(2.663)	(2.481)	(2.776)
Observations	65	50	58	43	65	50
R^2	0.13	0.22	0.12	0.20	0.19	0.24
Mean Depvar	68.04	66.97	73.67	73.50	83.36	82.04
Term Limit	Any	2-Term	Any	2-Term	Any	2-Term

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

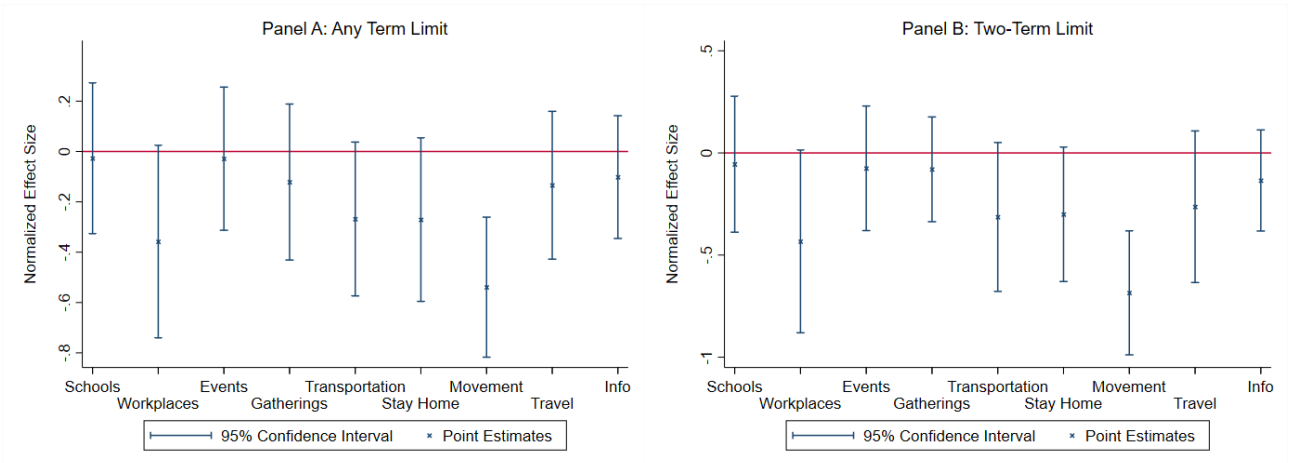
The estimates of β_1 reveal that leaders eligible for reelection tend to enact less stringent policies in response to COVID-19. Consider column (1), which reports results for SI_1, our preferred measure of stringency, based on the full sample. The coefficient in the first row implies that countries whose leaders can run for an additional term experienced, on average, an overall stringency that is 17 points lower than those where the incumbent faces a term limit. Given a sample mean of 68.04 for SI_1, this is close to a 25% effect. Such a shift is tantamount to moving from the level of stringency experienced by citizens in Colombia ($SI_1 = 76.45$), under the term-limited presidency of Iván Duque, to the one imposed by French President Emmanuel Macron (58.65), who will be allowed to seek another 5 years at the Élysée in 2022. However, for the reasons outlined above, this finding must be interpreted cautiously. Our focus is on β_3, that captures the differential role of election proximity for incumbents with and without reelection incentives. The estimates of β_2 and β_3 reveal that proximity to the upcoming elections reduces stringency, *but only in places where the incumbent is actually eligible to run an additional term.* For example, the coefficient in the last row of column (1) is negative and statistically

significant and implies that, in countries whose leader can run, a 1-year reduction in the time to the next election triggers an average decrease of 5.44 points (or 8%) in overall stringency. The coefficient on the interaction term becomes larger - a decrease of about 6.87 points per year - when focusing on the sample of countries with a two-term limit. Estimates for stringency measures SI_2 and SI_3 (columns 3-4 and 5-6, respectively) are bigger in absolute magnitude and statistically significant at conventional levels.[7] This is reassuring and suggests that our findings are not driven by differences in the timing or severity of contagion across countries, an issue we discuss in more detail in the Balance Tests section below.

Finally, the estimates of β_2, that capture the role of election proximity in countries where the incumbent is term-limited, are noisy and if anything *positive*. This provides further evidence that the values of β_3 reflect the role of election concerns and not, for example, logistical issues associated with the organization of elections, that may impact stringency in countries scheduled to vote closer to the COVID-19 outbreak (we further address this concern below).

Next, in Figure 1 we plot the interaction coefficient β_3 when estimating (1) separately for each of the components of the SI. The results are consistent with electoral concerns mattering most for those policies that may prove more economically detrimental.

Figure 1: Effect by Single Components of the Stringency Index



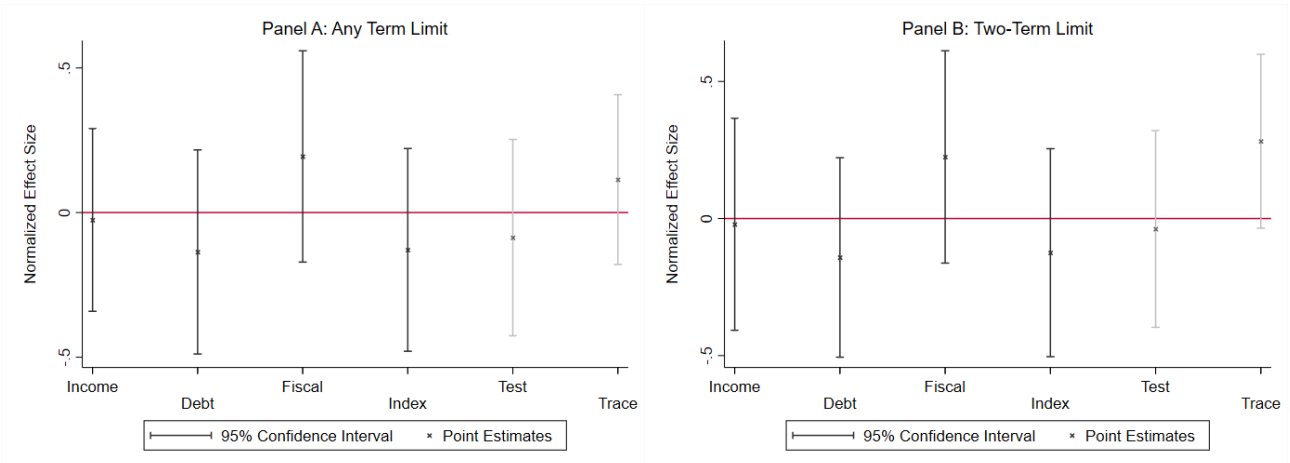
Notes: All outcomes are normalized to enhance the comparability of effect magnitudes. Vertical bars are 95% confidence intervals based on robust standard errors.

[7]The reduction in sample size in columns 3 and 3 is due to the fact that 7 countries (Angola, Burundi, Malawi, Mozambique, Namibia, Tanzania, and Zimbabwe) did not reach the threshold of 1 case per 100,000 inhabitants needed for the computation of SI_2 by the end of our period of observation.

Effects are larger for measures such as issuing stay-home requirements, restricting internal movement, and closing workplaces, which individually achieve statistical significance at either the 10% or the 1% level. By way of contrast, point estimates are very close to zero for school closing, the cancellation of public events, and the organization of COVID-19 public information campaigns, all policies that arguably have a smaller direct impact on a country's economy.

The evidence provided so far lends support to the role of electoral concerns on the adoption of stringency measures by incumbents in response to the COVID-19 epidemic. However, one alternative interpretation of our findings is that an upcoming election shifts *all* the efforts of executives to other activities - like campaigning - or that incumbents with an upcoming election face institutional constraints that prevent them from adopting appropriate responses to the crisis. In other words, it could be that executives up for reelection shortly are simply less responsive to the epidemic *in general*, and not specifically with respect to stringency as our argument implies. To test for this, we re-estimate equation (1) using as outcome each of the three measures of economic responsiveness provided by OxCGRT, plus their Economic Support Index[8], as well as OxCGRT measures of country efforts in testing for and tracing of COVID-19 cases. The estimates of β_3 from this exercise are in Figure 2 below.

Figure 2: Other Dimensions of Response



Notes: All outcomes are normalized to enhance the comparability of the coefficients. Vertical bars are 95% confidence intervals based on robust standard errors.

[8]The three measures gauge the enactment and intensity of policies providing income support, debt relief, and fiscal benefits. The Economic Support Index combines the first two (again, refer to Hale et al., 2020 for details).

Results for the four economic measures reveal no significant evidence that leaders facing high electoral pressure tend to be less responsive in this domain. If anything the only sizable coefficient – the one for fiscal responsiveness – is *positive*, although it falls short of statistical significance at conventional levels. There is similarly no evidence that reelection concerns have an impact on testing efforts. When it comes to tracing – which can possibly be seen as an alternative to lockdowns (Campbell, 2020) – we find mild evidence that electoral pressure may increase efforts on this dimension. On the one hand, this confirms that electorally-concerned executives are unlikely to be simply inoperative. On the other, it suggests that these governments may be adopting a different policy mix, attempting to curb the spread without relying too heavily on restrictions.

Balance Tests

A natural concern with cross-country regressions is endogeneity and omitted variable bias. However, both of our measures of electoral pressure are pre-determined with respect to the timing of the COVID-19 outbreak, and should thus be orthogonal to it. We empirically test this by estimating equation (1) using as dependent variable the number of days from January 1st, 2020 (the first recorded day in the OxCGRT data) to the day of the first confirmed case in each country. As shown in Table *A*2 in the Appendix, the coefficients for the main effects and interaction terms are not statistically significant and very small in absolute magnitude.

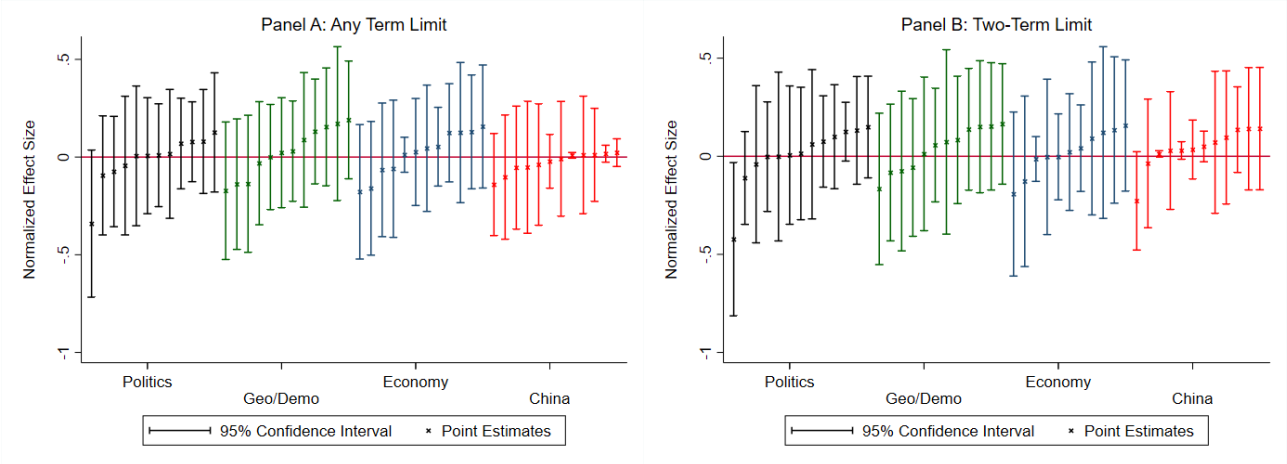
Importantly, our emphasis on β_3, the *interaction* between reelection incentives and electoral proximity, implies that for any potential confounder to bias our estimates it must be correlated with this interaction term and not simply with the main effects of these two electoral variables.

To address this possibility, we estimate our baseline regression, but employ as outcome variable 48 country or incumbent pre-COVID-19 characteristics. A detailed description of all outcomes, including the source, can be found in Table DA1 in the Data Appendix. We choose these variables on the grounds that they may be relevant for explaining observed stringency, or could proxy for the intensity of COVID-19 in a given country. They include, among others, GDP per capita, population density, current leader's ideology (coded following the procedure described in the Appendix) and a country's Polity IV democracy score. For ease of illustration,

we assign each variable to one of four categories: politics, geography/demographics, economics, and connectedness with China. The 12 variables in the latter category (listed in Table DA1, Panel D) are particularly important, as we take them as indirect measures of the likelihood that the virus could penetrate country c at an early stage from the place where it originated.

The results of this exercise are shown in Figure 3, which plots estimates and 95% confidence intervals of β_3 for each of these 48 covariates. With the only exception of the incumbent's win margin in the most recent election, all variables are uncorrelated with the interaction between election proximity and the incumbent being allowed to run again. Most importantly, not only are the coefficients statistically insignificant, but they are quite small in absolute magnitude. In figures A2 through A5 in the Appendix we report the outcome of this analysis in more detail, including estimates of β_1 and β_2.

Figure 3: Balance Tests



Notes: All outcomes are normalized to enhance the comparability of effect magnitudes. Vertical bars are 95% confidence intervals based on robust standard errors.

We also estimate (1) using two direct measures of the pandemic's severity: the number of infected people per one million inhabitants in the week following the first confirmed case, and the number of infected people per one million inhabitants on the last day of our observation period. All coefficients are statistically insignificant across both samples. However, since these direct measures of severity are potentially endogenous to a country's stringency, on the robustness checks below we rely instead on other variables that capture the *potential* for disease spread.

Robustness Tests

While Figure 3 reveals limited evidence that our interaction term confounds the effect of other country or incumbent characteristics, we perform a series of robustness checks to further alleviate this concern. In particular, to account for the fact that having an incumbent eligible for reelection may confound the effect of other covariates, we control for each of these 48 country characteristics - one at a time - and their interaction with $Elec\_Proximity_c$. We do the same with indicators for each of the 14 world's regions represented in our sample, for a total of 62 regressions.[9]

Figure A6 shows that, reassuringly, the estimate of β_3 remains remarkably stable and statistically significant in both samples and across all the 62 regressions. While in Figure A6 we use SI_1 as dependent variable, results are very similar for SI_2 and SI_3. Among the many covariates we employ, one subset of variables worth highlighting is the group of decentralization indicators provided by Ivanyna and Shah (2014). The fact that our results stand even after controlling for overall, political, administrative, and fiscal decentralization assuages the concern that differential constitutional abilities of leaders to actually intervene may be driving some of the findings reported in Table 1.

To further explore the issue of the administrative level at which restrictions are implemented, we use the fact that eight of the nine components of the SI OxCGRT are accompanied by a binary indicator for whether the policy was implemented nationwide. We first average the indicator for each component across all the days of our period of observation, and then take the mean of such eight averages for each country. This provides us with a measure of the degree to which stringency of country c refers to a national policy most likely implemented by the president or head of government, as opposed to sub-national policies implemented by governors, mayors or lower level officials. Its highest value is 1, which represents a country that has been applying all restrictions uniformly to its entire territory on all days. Interestingly, the mean for this measure in our sample is .83, with the maximum value of 1 being attained by 17 countries (26%), and as many as 34 (52%) with a value above .90. In other words, there is strong evidence that our measures of stringency mostly capture nationwide policies, thus

[9]We assign countries to regions following the classification proposed by the United Nations Geoscheme.

attributable to national executives (for which our measures of electoral concerns are relevant), rather than to sub-national leaders. For robustness we run the regressions reported in Table 1 excluding the 6 countries with a value below 0.5 and obtain largely similar results.[10]

Another possibility is that our measure of election proximity simply captures a country's term length. At any given point in time, countries with longer term lengths are likely to exhibit a larger distance to the next election than countries with shorter term lengths. To address this, we control in our baseline regression for a country's term length and its interaction with the dummy for whether the incumbent can run for reelection. The estimates for β_3, reported in Table A3, remain essentially unchanged and statistically significant at the 5% level.

Next, we show that our findings are not driven by the choice of the sample period, which goes from the day of the first case in each country to May 29, 2020. To shed light on this, we allow the end date of the period to vary from as early as April 3rd to as late as May 29, 2020.[11] Figure A7 plots 57 estimates of β_3 from equation (1), one for each possible period. Two interesting patterns emerge. First, all estimates are statistically significant and the size of the effect is remarkably stable. Second, estimates become more precise for longer time windows, which naturally carry more information on the level of stringency in place in each country.

Finally, we examine robustness to sample composition. To this end, we repeat the estimation of our baseline regression for SI_1 excluding one of the countries at a time in each iteration. As shown in Figure A8, no single country drives the effect documented in Table 1. Findings are very similar when we conduct these leave-one-out tests for SI_2 and SI_3.[12]

Discussion and Conclusion

In this paper we provide evidence that electoral concerns can help explain the heterogeneous response of political leaders to the COVID-19 epidemic. Our estimates suggest that reelection incentives and election proximity can account for almost a quarter of the variation in the

[10] These countries are Afghanistan, Brazil, Indonesia, Kazakhstan, Russia, and the United States.

[11] We choose April 3rd as a lower bound since, as reported in Table A1, it is the day where the last country in our sample (Malawi) reported its first confirmed case. This allows us to preserve the entire sample and meaningfully attribute any change in coefficients' magnitude or significance to the choice of the period of observation.

[12] We also test the stability of β_3 to dropping groups of countries like Argentina, Brazil, France and the US (the largest Latin American and NATO countries in our sample, respectively) and Kenya, Malawi, South Africa, Turkey, and Uzbekistan, the countries in our sample that held early elections in their last electoral round. Our results are not significantly affected by the exclusion of these groups.

stringency of the policies adopted. We thus contribute to a large body of literature documenting the importance of electoral and political variables for the choice of economic policy (Persson and Tabellini, 2000, 2003). Our findings are consistent with the argument of Frieden (2020) and confirm the relevance of political variables in explaining policy choices, even in the context of a global health emergency, when politicians across the world are under pressure to act fast and adopt the recommendations of public health experts in a coordinated manner.

We conclude with a set of caveats and directions for future research. First, in spite of the balance tests and robustness of our estimates, our results stem from a cross-country comparison and should thus be interpreted with caution. As more fine-grained, sub-national data become available, within-country studies may be able to dig deeper into the relationship between electoral concerns and the response to the epidemic. This is particularly relevant in countries in which the response to the epidemic has been devolved to local politicians such as governors or mayors. Nonetheless, we believe that the cross-country patterns documented in this paper are informative, and can further our understanding of the variation in response to COVID-19.

Second, our findings should not be taken as running counter to or being inconsistent with other findings, such as the short-term gains in incumbent popularity triggered by lockdowns in some Western-European countries (Blais et al., 2020). On the one hand, it may take time for leaders to realize that more stringent measures may allow them to gather additional support with some groups of the population (for example, those less likely to be affected economically by these measures). Similarly, politicians with reelection incentives may be willing to forego rallying effects that may quickly vanish, and opt instead to avoid dealing with a plummeting economy as the election day approaches.

Finally, while our data consistently show that reelection concerns have been an important determinant of government stringency, we do not claim that this is the only political driver of governments' response to the epidemic. Several other factors could be at play, including the ideology of the leader or the degree of authoritarianism of the regime (Frey et al., 2020; Can Kavakli, 2020) – which we account for in both our balance and robustness tests – and citizens willingness to comply with different measures Barrios et al. (2020), among others.

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