Does Electoral Pressure Lead to Better Government Performance?

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Abstract

I determine whether pressure from upcoming elections affects an effort-based measure of government performance: evacuations in preparation for tropical cyclones in the Philippines. Unlike measures used in previous studies, this isolates politician effort because the costs of maintaining shelters and transporting people to shelters are borne by national agencies. Governors only need to coordinate these resources. By comparing performance over time in provinces whose governors are eligible to seek re-election to provinces whose governors are ineligible, I find that pressure from upcoming elections causes a 14 percent increase in evacuation rates. This implies that electoral pressure drives politicians to exert more effort in doing their job. My results are robust to various controls, including governor fixed effects.

1 Introduction

Poor and unresponsive governments are often characterized by corruption and a lack of effort in performing assigned responsibilities (Grindle, 2004; Olken and Pande, 2012). In a retrospective voting framework, elections are meant to mitigate this problem by providing voters with an accountability mechanism to incentivize government performance. The underlying idea is that politicians respond to electoral pressure in ways that can increase their chances of winning the next election (Maskin and Tirole, 2004; Canes-Wrone, Herron, and Shotts, 2001; Persson, Roland, and Tabellini, 1997). The focus of this paper is to determine whether electoral pressure causes politicians to exert more effort in performing their duties.

Previous studies have shown that voters retrospectively reward or punish incumbents for past performance (e.g., Brender and Drazen, 2008; Labonne, 2013; Ferraz and Finan, 2008; Healy and Malhotra, 2009; Cole, Healy, and Werker, 2012; Drago, Galbiati, and Sobbrio, 2018; Healy and Lenz, 2014). In response to these incentives, politicians have been found to exhibit strategic responses have been documented in the form of political business cycles in government spending (e.g., Akhmedov and Zhuravskaya, 2004; Besley and Burgess, 2002; Khemani, 2004; Drazen and Eslava, 2010; Klomp and de Haan, 2016; Repetto, 2018; Curto-Grau, Solé-Ollé, and Sorribas-Navarro, 2018), corrupt behavior (Ferraz and Finan, 2011), and police expenditure and hiring (Levitt, 1997; Guillamón, Bastida, and Benito, 2013).[1]

Showing that spending-related outcomes respond to electoral pressure does not disentangle performance from spending, especially when the spending is potentially wasteful or financed by debt or asset liquidation. When voters are informed about such spending manipulation, the effect of electoral pressure on spending greatly diminishes (Repetto, 2018). To overcome the potential shortcomings of using spending as an outcome, I instead focus on an outcome that more directly measures effort. Specifically, I ask how much of the affected population is evacuated in preparation for tropical cyclones in the Philippines. This is an activity that requires significant political capital and effort due to the need to identify, warn, persuade, and transport people who would otherwise be incapable of evacuating. Using evacuations

[1] See Healy and Malhotra (2013) and Ashworth (2012) for more comprehensive surveys of theoretical and empirical studies.

as a measure of performance disentangles effort from local spending because the costs of maintaining shelters and transporting people to shelters are borne by national agencies, and is arguably more in line with existing theory. Moreover, the outcome used here likely has large and direct consequences for public safety and mortality.

I use Philippine data to examine whether increased electoral pressure affects government performance, as measured by the fraction of the affected population that is evacuated each year in preparation for tropical cyclones. The Philippines is an archipelago in Southeast Asia that experiences destructive tropical cyclones several times each year. To prepare for these storms, governors lead evacuation efforts to move their affected population to evacuation shelters. They coordinate and request resources from the national government to accomplish this. Evacuation of the affected population serves two goals: 1) protect people from the damaging and potentially fatal effects of tropical cyclones; and 2) provide temporary food and shelter to those that might otherwise be homeless due to the destruction of homes that is commonplace with these storms.

To identify the effect of electoral pressure on evacuations, I exploit institutional variation in electoral pressure in the Philippines generated by the combination of term limits and electoral cycles. Using term limits allows me to overcome the potential reverse causality problem inherent in the actual decision to seek re-election. That is, governors who perform well in previous evacuation efforts may be more likely to seek re-election. My approach also allows me to account for the possibility that some tropical cyclone seasons are more active than others, and that there may be time invariant province-level characteristics that affect the ease of evacuation. In the Philippines, governors are limited to serving three consecutive three-year terms. Because third-term governors are barred from seeking re-election, upcoming elections matter less to them than to governors that are still eligible to run. Thus, the re-election eligible governors are under greater electoral pressure than the term-limited, re-election ineligible governors. I also exploit variation over time and compare evacuation performance in the final year of governors' terms. The intuition of this empirical strategy is that in the final year of their terms, eligible governors face greater electoral pressure due to the increased salience of the upcoming election while ineligible governors face only similar

pressure as earlier in their terms.

The underlying assumption is that absent the increase in electoral pressure from the upcoming election, evacuations in provinces whose governors were eligible to run for re-election would have trended similarly compared to provinces whose governors were ineligible to run. I show graphical evidence in favor of this assumption, as both groups of provinces appear to have evacuated at similar rates during the first two years of each group of governors' terms. Importantly, evacuation rates do not start to diverge until the end of the term, corresponding to the fact that electoral pressure is higher during the final year than during the first two years.

Results indicate that pressure from upcoming elections leads to a statistically significant 14 percent increase in the evacuation rate. This finding is robust to various specifications, including adding controls for tropical cyclone distance and provincial population, as well as governor fixed effects. In line with this interpretation of my estimates, I also demonstrate that the effect of upcoming elections is stronger for term-limited incumbents who may still have electoral incentives because they are running for other province-level office. Finally, as a falsification check, I show that evacuation rates in provinces headed by eligible governors do not diverge from the other provinces earlier in the term, when the elections are still far away. Overall, these findings are consistent with the interpretation that it is electoral pressure that causes more thorough evacuation efforts.

In showing that electoral pressure leads to increased evacuations, this paper complements existing literature that find evidence of various strategic responses to electoral pressure. Since coordinating evacuations does not directly require local spending in this context, these results further show that electoral pressure can affect effort, rather than only spending choices as found in most previous studies. In this aspect, this paper is closely related to Ferraz and Finan (2011) who find that reelection incentives reduce corrupt behavior among Brazilian mayors. I build on their results by showing that electoral incentives increase the completion of an assigned task, that of evacuating the affected population. Through its use of term limits to help identify causal effects, this paper is also related to other papers that examine

how electoral incentives arising from term limits affect the quality of elected officials as well as their policy choices (e.g., Besley and Case, 1995; List and Sturm, 2006; Ferraz and Finan, 2011; Alt, Bueno de Mesquita, and Rose, 2011; Park, 2017).

These findings are important for several reasons. The effort that politicians put into the task under study can have positive effects on public safety in the wake of natural disasters. This has an immediate and direct effect on citizen well-being, since being served in evacuation shelters shields them from life-threatening situations and gives them access to food and medicine during a vulnerable time. In addition, these results show that politicians can improve their performance independently of budget decisions, which has implications for jurisdictions that have little control over the local budget, or that have a small budget to begin with. Overall, the findings suggest that even in contexts where government is generally ineffectual, electoral pressure does seem to generate additional effort by politicians.

The rest of this paper is organized as follows. The next section discusses the tropical cyclone risk in the Philippines, and discusses the structure of Philippine politics. Then, Section 3 presents the data used in the study and the empirical strategy. Section 4 presents the results from various estimations. Section 5 concludes.

2 Institutional Background

2.1 Tropical Cyclone Exposure and Evacuation Process

The Philippines is a Southeast Asian country that is regularly in the path of tropical cyclones that form in the Pacific Ocean and move toward mainland Asia or Japan. On average, about 20 tropical cyclones affect the Philippines each year, of which nine tropical cyclones make landfall. The peak season for tropical cyclones is July to September, but they can affect the Philippines at any time. These tropical cyclones come in varying intensities and sizes, and affect different parts of the country (Takagi and Esteban, 2016).

Figure 1 shows the tracks of tropical cyclones that affected the Philippines during the study period, 2007-2014. Most of the tropical cyclones move in a general east to west direction. Because of the relatively small size of provinces relative to tropical cyclones, several provinces

can be affected by each tropical cyclone, even if the tropical cyclone never makes landfall in the Philippines. Because of the tropical cyclone risk, coupled with other natural disaster risks, the Philippines is the third-ranked country by exposure to natural hazards (Radtke, 2015).

With a large population of 100 million people and a population density ten times that of the U.S., the Philippines has a substantial number of residents living in areas that are prone to flooding and landslides. Preparing for tropical cyclones requires evacuating these people, both to prevent casualties and because flooding and landslides would otherwise leave these people homeless and without food and medicine due to the destruction of homes that is commonplace with these storms (Diacon, 1992).[2] Under the 1991 Local Government Code, much of this responsibility has been devolved to local governments. As the highest ranking local executive officials, governors oversee evacuation efforts in their province. However, the national government still supports local evacuation efforts by providing the necessary infrastructure and services, such as evacuation shelters, supplies, and trucks. The task of governors is to coordinate activities within their province and request assistance from the national government when necessary (World Bank, 2005). Otherwise, services from national government agencies will not be delivered in their province.

Figure 2 illustrates how the evacuation process works in the Philippines. Once a tropical cyclone enters the Philippine Area of Responsibility, the Philippine Atmospheric Geophysical and Astronomical Services Administration issues periodic forecasts. These forecasts are used to identify the affected population and notify their local government units, starting with the provinces and down the chain to the municipalities. These local government units warn the affected population and issue evacuation orders if necessary. The provincial governor coordinates these efforts and ensures that the necessary resources are available. The governor's task is made even more difficult when people are reluctant to obey evacuation orders for fear of losing valuables to looters (Manila, 2013).[3] When carrying out a mass evacuation, the

[2]Unlike coastal properties in the U.S., evacuee residences tend to be shanties that are especially vulnerable to storm damage.

[3]In December 2016, a tropical cyclone was forecast to affect a province in the Philippines around Christmas Day. Because of the upcoming festivities, affected people did not want to evacuate. To incentivize evacuation, their governor offered roast pork, a traditional festival meal, in the shelters (Tantiangco, 2017).

provincial governor may have to request transportation assistance, such as trucks and boats from the police and/or the military, and send them to the places in which they are needed. In conjunction with these efforts, national government agencies such as the Department of Social Welfare and Development and the Department of Health preposition food packs and medical supplies in the evacuation shelters. People stay in evacuation shelters until it is safe to return to their homes.

2.2 Elections and Term Limits

The Philippines is divided into 18 administrative regions, containing a total of 81 provinces, 145 cities, and 1,489 municipalities (Philippine Statistics Authority, 2015). As there is no elective office for administrative regions, the highest ranking local government official is the provincial governor. Elections for governor are held simultaneously with all other national and local elections every three years in May, with the winning candidates taking their office in July. The election years in my study period are 2007, 2010, and 2013. Candidates must declare their candidacy in the preceding October. Because of this setup, the months before the end of the term is the period during which upcoming elections are most salient.

Governors, along with all other local officials, are limited to serving three consecutive three-year terms. After serving in one capacity for nine consecutive years, governors are termed out/ineligible and must step down or seek election to a different office. Although political dynasties have been prohibited under the 1987 Philippine Constitution, it is possible for termed out politicians to circumvent the three-term limit by running for a different office (Querubin, 2012). This makes it easier for a former three-term governor to run for governor again after sitting out one term as governor. In Subsection 3.1, I discuss the various ways by which I account for this. Finally, it should be noted that politics in the Philippines is personality-driven rather than political party or platform-driven (Quimpo, 2007). In addition, national parties are not necessarily represented at the local level, and stable alliances between the national and local governments organizations are not the norm. In the Philippines, local elections are dominated by families (Cruz et al., 2017), and family ties influence post-disaster response (Atkinson, Hicken, and Ravanilla, 2014). This means that it is unlikely for the ruling national party to systematically favor particular governors over

others when allocating resources.

3 Data and Empirical Strategy

3.1 Data

I obtain data on evacuations, casualties, and damages due to tropical cyclones from the National Disaster Risk Reduction and Management Council. The data cover the period 2005-2014, and are reported at the province-tropical cyclone level. I compiled the data from status updates and reports posted by the National Disaster Risk Reduction and Management Council. These reports include information for each province on the number of affected population and the number of people evacuated attributable to each tropical cyclone that affected that province. From these data, the fraction of people evacuated in each province for each tropical cyclone is constructed by dividing the number of people evacuated by the number of people affected. The National Disaster Risk Reduction and Management Council estimates the affected population by identifying at-risk areas and summing the total population in those areas. The number of people evacuated is counted by evacuation camp managers deployed by the Department of Social Welfare and Development.[4] Since they are employees of a national government agency, these camp managers do not report to the governors. This is important because it guards against the possibility that governors attempt to manipulate evacuation numbers in their favor.

I construct a balanced panel by collapsing the tropical cyclone incidents data to the province-year level. I merge this dataset with actual tropical cyclone track data from the International Best Track Archive for Climate Stewardship. I use this to calculate the closest distance that each tropical cyclone's eye ever got to each province. While provinces are classified as affected if they appear in the National Disaster Risk Reduction and Management Council, I also classify provinces as being directly hit by a tropical cyclone if the eye of the tropical cyclone passes within 47 kilometers of the province. This allows me to control for the degree to which provinces are exposed to tropical cyclones. The area defined by the 47 kilometer

[4]The data also contain information on casualties. However, unlike the number of evacuees, the number of casualties is measured in a less straightforward way: in order to count, casualties must be attributable to the storm. Since the process for attributing casualties to storms can vary over time and among provinces, the data are less reliable and in fact are mostly missing for the tropical cyclone incidents in my study period.

radius is typically where the strongest winds and heaviest precipitation falls.

To measure re-election incentives, I use election outcomes for all gubernatorial races during over the period 2001-2016 from the Commission on Elections. While I observe all candidates and therefore know ex-post who actually stood for re-election, I focus on re-election eligibility, which are based on term limits, to alleviate concerns that governors endogenously choose to run for re-election based on their past performance. Given the three-consecutive terms limit, I am able to identify ineligible incumbents beginning with the 2007 election. Thus, the final data that I use in this study cover the time period 2007-2014.

Table 1 describes the sample of unique governors in the data and breaks it down by the number of consecutive terms that they serve. There is a roughly even distribution of governors when broken down by this metric. Of the 49 governors that were term limited after serving three consecutive terms, 21 sought re-election to a different provincial office in the next election.[5] I do a number of exercises to account for the possibility that governors that seek re-election to a different provincial office when they become ineligible to run for governor may differ in important ways from ineligible governors that do not run again. I start by estimating Equation 1 without the provinces of the 21 governors. The graphs and estimates are similar to results obtained using the full sample of provinces, as shown in Appendix Figure A.1, and Tables 6. As a check, and to help shed light on the electoral accountability mechanism, I also conduct analyses that treat term-limited governors who run again for different office as similar to the re-election eligible governors. This leaves only the term-limited incumbents who do not seek other provincial office as the comparison group. While it is possible that the term-limited governors who choose to seek office As I will discuss in Subsection 4.3, the results from these exercises are consistent with the interpretation that running for a different provincial office exposes re-election ineligible governors to some electoral pressure.

Since governors can serve multiple terms, each governor can appear in the data more than once, and so Table 2 breaks down the province-level data by the term of their governor. Most of the provinces are headed by a first-term governor, and provinces are affected by

[5]There are three possibilities: vice-governor, provincial board member, and congressman.

about 2 tropical cyclones each year regardless of the election eligibility of their governor. On average, 39,810 people are evacuated out of a total affected population of 116,361 for an evacuation rate of 34.21 percent. In Table 3, I show that the re-election eligibility of a province's governor does not predict the total affected population, number of households, number of times a province is affected by a tropical cyclone each year, or the number of times a province is directly hit by the eye of a tropical cyclone each year.

3.2 Empirical Strategy

I exploit variation in electoral pressure arising from the rule that prohibits incumbents who have already served three consecutive terms from seeking re-election to the same office. This term limit allows me to compare the difference between tropical cyclone preparations in provinces whose governors are eligible to run and provinces whose governors are no longer eligible to run, and who do not seek re-election to a different provincial office. Since these groups may still differ along aspects that would affect how thoroughly they evacuate, I use the remaining time to the next elections (or equivalently, the remaining time in a governor's term) as a second difference. The idea is that the time to the next elections should only matter to the governors who can still seek re-election, because voters can no longer hold ineligible governors accountable for their performance at the next elections. I estimate fixed effects panel data models to determine the impact of electoral pressure on the number of evacuees per affected population. The OLS panel data model estimated can be thought of as a generalized difference-in-differences specification:

$$\begin{aligned} evacuations_{it} =& \beta_1(eligible_{it} * year\ before\ elections_t) + \beta_2 eligible_{it} \\ &+ \beta_3 year\ before\ elections_t + \beta_4 storms_{it} + c_i + u_t + \varepsilon_{it} \end{aligned} \tag{1}$$

where $evacuations_{it}$ is the number of people evacuated relative to the affected population in a province i in year t, $eligible_{it}$ is an indicator for whether the governor of province i is in the first or second consecutive term during year t, $year\ before\ elections_t$ is an indicator for whether it is 12 months from the end of a term, $storms_{it}$ controls for the number of times a province i is affected by a tropical cyclone in year t, and c_i, u_t are province fixed effects and year fixed effects, respectively. I construct my dependent variable as the logarithm of 1 plus

the fraction of affected people evacuated. I complement this by using an inverse hyperbolic sine transformation to directly account for zeros. I also report results obtained by weighting observations by province household population.

β_1, the coefficient on the interaction term, $eligible_{it} * year\ before\ elections_t$, is the coefficient of interest. It captures the effect on evacuations of increased pressure on eligible governors due to upcoming elections. Other specifications also include controls for population as well as the number of direct hits a province got each year. Robust standard errors are clustered at the province level. I also perform inference using a series of placebo treatments, in the spirit of the permutation inference approach used by Abadie, Diamond, and Hainmueller (2010). In each permutation, I randomly assign re-election eligibility of the provincial governor to each province, and then estimate the coefficient on the placebo "post-treatment" variable, $placebo\ eligible_{it} * year\ before\ elections_t$).

The identifying assumption underlying this approach is that absent the increase in electoral pressure due to upcoming elections, evacuations in provinces whose governors can seek re-election would have trended similarly with evacuations in provinces whose governors are ineligible to run. I examine the validity of this assumption in the following ways. I start by graphically examining whether the fraction of people evacuated at the start of a three-year term is similar across provinces regardless of the re-election eligibility of their governors. Having similar baseline evacuation rates means that these provinces are likely comparable. Next, I directly test whether evacuation rates in provinces headed by re-election eligible governors start diverging from other provinces in the second year of the three-year term. This is because when the next elections are two years away and unlikely to be salient, evacuation rates in provinces with eligible governors should not yet diverge from the other provinces.

In other specifications of Equation 1, I also examine whether estimates are robust to including a control for province-level population, a determinant of how many people need to be evacuated. Under the identifying assumption, population should not change more over time in provinces headed by eligible governors. For example, if population increases more during the final year in provinces when they are headed by eligible governors, then evacuations in

those provinces might have increased ahead of elections relative to provinces headed by ineligible governors even without the increase in electoral pressure. Finally, I examine whether the results are robust to including indicators for governor fixed effects, which account for governors that serve more than once or drop out during the time period under study. This ensures that any effects are not driven by compositional differences in the behavior of governors who reach their third term and those who do not.

I conduct additional exercises to examine the robustness of my results, and shed light on their interpretation. As discussed in Section 3, some of the term-limited, re-election ineligible governors ran for a different province-level elected office after their third term. In Subsection 4.2, I first present the results obtained by estimating Equation 1 on the sample that excludes these governors. In Subsection 4.3, I examine how accounting for them in the analyses affect the results. Specifically, I examine whether including them with the other term-limited governors attenuates the results, and whether estimating effects for them separately results in effects similar to the re-election eligible governors. I do the latter by estimating the following equation, which is a variant of Equation 1:

$$\begin{aligned} evacuations_{it} =& \beta_1(eligible_{it} * year\ before\ elections_t) + \beta_2 eligible_{it} \\ &+ \beta_3(ineligible\ ranforotheroffice_{it} * year\ before\ elections_t) \\ &+ \beta_4 ineligible\ ranforotheroffice_{it} \\ &+ \beta_5 year\ before\ elections_t + \beta_6 storms_{it} + c_i + u_t + \varepsilon_{it} \end{aligned} \tag{2}$$

where β_3 is an additional coefficient of interest, the coefficient on the interaction term $ineligible\ ranforotheroffice_{it} * year\ before\ elections_t$. It separately measures the effect of upcoming elections on term-limited, re-election ineligible incumbents who run for a different province-level office. $\beta_3 > 0$ implies that they also respond to upcoming elections by increasing evacuations at the end of their final term as governor. When using Equation 2, effects are calculated relative to term-limited, re-election ineligible incumbents who do not run for a different province-level office.

4 Results

4.1 Graphical Evidence

Before presenting my main results, I provide suggestive graphical evidence of the relationship between evacuation rates and pressure from upcoming elections in this context. In Figure 3, I graph the raw data of the fraction of the affected population evacuated in provinces, by term of governor and whether it is: 1) the first two years of the term, the period of lower electoral pressure, and 2) the last year of the term, the period of increased electoral pressure. Although this graph presents only raw averages that do not account for compositional changes in governors, or other important differences between provinces, it highlights two important features of the data. First, the graph shows that people are evacuated at similar rates across provinces during the first two years of a term regardless of the re-election eligibility of the governor. Second, the graph shows suggestive evidence that increased electoral pressure affects evacuations. For first or second-term governors who are still eligible to run for re-election, the fraction of the affected population that ends up being evacuated increases during the last year of their terms.

Strikingly, Figure 3 reveals that there is no corresponding effect for the third-term, ineligible governors, as evacuations seem to have proceeded at similar rates during the start of the term compared to the end of the term. While these are just raw averages, it suggests that electoral pressure increases evacuations. In the next subsections, I provide causal evidence of this interpretation by estimating various specifications of Equation 1 to account for potentially important factors, including differences between re-election eligible and ineligible governors.

4.2 Effect of Electoral Pressure on Evacuations

Estimation results of Equation 1 are shown in Table 4. Panel A presents results when the dependent variable is the logarithm of 1 plus the fraction evacuated, Panel B presents population-weighted estimates, while Panel C makes use of the inverse hyperbolic sine transformation. Each column presents estimates of the coefficient on $eligible_{it} * year\ before\ elections_t$ from a different specification. In addition to province and year fixed effects, all specifica-

tions include indicators for whether governors are eligible to run and for whether it is the year before the next election. In Column 1, which includes only these baseline controls, the impact of increased electoral pressure is a 12.8 percent increase in the number of evacuees. This effect is large and statistically significant at the 10 percent level. I formally test for pre-divergence by adding an indicator for $eligible_{it} * 2years\ before\ elections_t$, which allows for evacuation rates to start diverging in the middle of the term, when elections are still far away. Column 2 shows that there is little evidence of such pre-divergence, as the point estimate on $eligible_{it} * 2years\ before\ elections_t$ is small and close to zero, and the coefficient of interest stay positive and significant.[6]

I examine the robustness of this result by accounting for other factors that might also affect evacuations. In Column 3, I add a time-varying control control for provincial household population, which accounts for the possibility that provinces that have a big and/or growing population simply evacuate more of their affected population. The estimate from this specification is a 12.5 percent increase. Column 4 includes a time-varying control for the number of direct hits that a province took from tropical cyclones each year. Since direct hits are probably more destructive, provinces that get more direct hits carry out more complicated evacuations. Again however, the estimated effect is steady at about 12.7 percent. In Column 5, I estimate a specification that adds governor fixed effects to the baseline controls. Doing this accounts for changes in the composition of governors. This results in an estimated effect of 12.1 percent, which is similar in magnitude though imprecisely estimated.

Panel B presents results when using population weights. In Panel C, I report estimates from the same set of specifications, but I apply the inverse hyperbolic sine transformation to the raw fraction of affected population evacuated. This directly accounts for zeros in the data. The results are qualitatively similar, if a bit larger in magnitude than those presented in Panels A and B.

I also perform a series of placebo treatments to assess the likelihood that the size of my estimates arises by chance. In each permutation, I randomly re-assign re-election eligibility

[6]In Figure A.2, I show this result graphically. Since governors serve only three years, I only have two years in the pre-treatment period.

of the governor to each province and construct a placebo "post-treatment" variable. This changes the set of provinces who are "treated" with electoral pressure in the year before the election.[7] I then estimate Equation 1, using only the baseline controls. The distribution of 1,000 placebo estimates are graphed in Figure 4. The vertical dashed line is at 0.143, corresponding to the estimate in Column 1 of Table 4. Only 2.7 percent of the placebo estimates are to the right of this dashed line. This implies a one-sided p-value of 0.027, which is in line with my province-level clustered standard errors.

4.3 Further Evidence of Electoral Accountability Mechanism

Here, I conduct analyses to account for the possibility that term-limited incumbents still perceive pressure from their constituents because they are running for a different provincial office in the upcoming election.[8] Despite potential endogeneity concerns, the estimates presented here are suggestive of an effect of electoral pressure coming from an ex-post decision to run for a different office.

In Table 5, I estimate Equation 2, a variant of Equation 1, using the full sample of governors, but treating the term-limited incumbents who seek other office as also treated in a sense, similar to the re-election eligible incumbents. Doing so leads to reveals that term-limited governors who seek other office also exhibit a sharp increase in evacuation rates, similar to the re-election eligible governors. This is consistent with the interpretation that the term-limited incumbents who run for other office also face electoral pressure.

Conversely, including all governors without accounting for heterogenous effects attenuates my estimates. In Appendix Table 6, I estimate Equation 1 on the full sample without distinguishing between term-limited governors who run for a different office and those who do not. Across all specifications, the point estimates are attenuated relative to Tables 4 and 5. Taken together, these give suggestive evidence to further support the interpretation that it is electoral pressure that causes the divergence in evacuation rates.

[7]Since the election happens at the same time for all provinces, I do not assign a placebo time path of "treatment" to each province when I re-assign re-election eligibility of its governor.

[8]Because politics in the Philippines is a family enterprise, most politicians have relatives running for office, regardless of their re-election eligibility. There is insufficient variation along this dimension.

5 Discussion and Conclusion

The research question examined in this paper is whether increased electoral pressure by itself leads governors to exert greater effort in the performance of their responsibilities. The setting provided by the Philippines allows me to isolate the causal effect because of term limits that divide governors into a group that faces electoral pressure and a group that faces much less pressure. I exploit this variation and the salience from upcoming elections to identify effects. I measure government performance along an important aspect of government responsibilities in the Philippines, the number of evacuations in preparation for tropical cyclones. This measure has the advantage of isolating effort from spending, as it is the national government that provides resources that may be needed by provinces. Evacuating the affected population only requires effort from governors in identifying and coordinating the necessary resources. This is a potentially lifesaving preparedness measure, and one that disproportionately benefits the poor and the vulnerable.

Results indicate a substantial effect of electoral pressure on evacuations. I estimate that increased electoral pressure leads to a statistically significant 14 percent increase in the fraction of the affected population evacuated. I show that the estimate is robust to various specifications, including controlling for tropical cyclone distance, population, and governor fixed effects. I also show that this effect grows as elections get closer and decays as elections are farther away. This finding complements previous literature that finds evidence of political business cycles in spending, and shows that electoral pressure also results in increases along effort-based measures of government performance.

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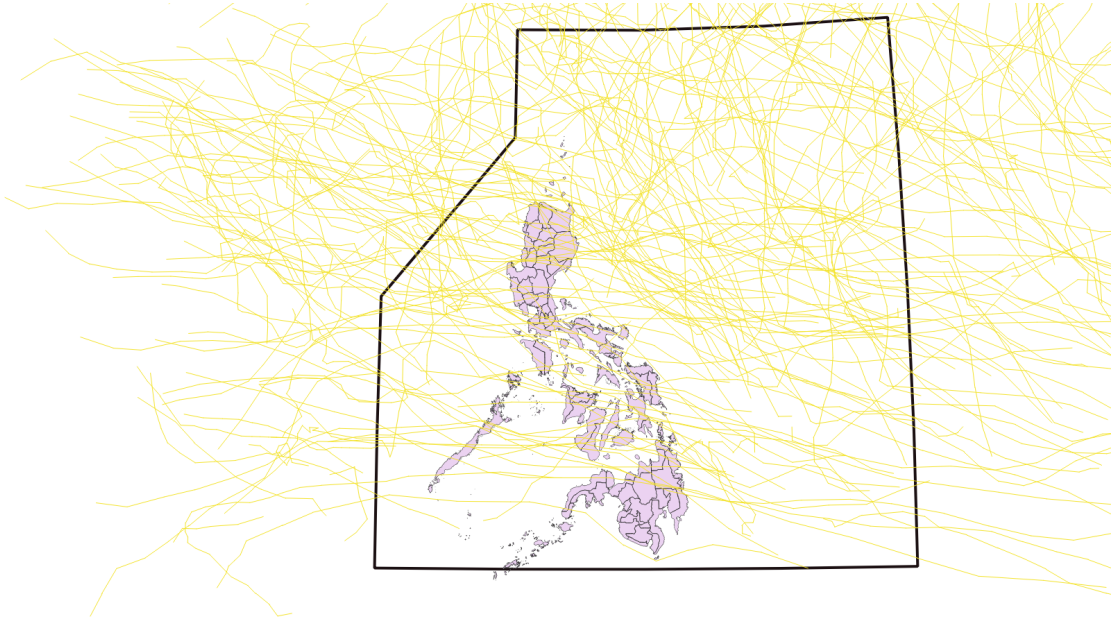
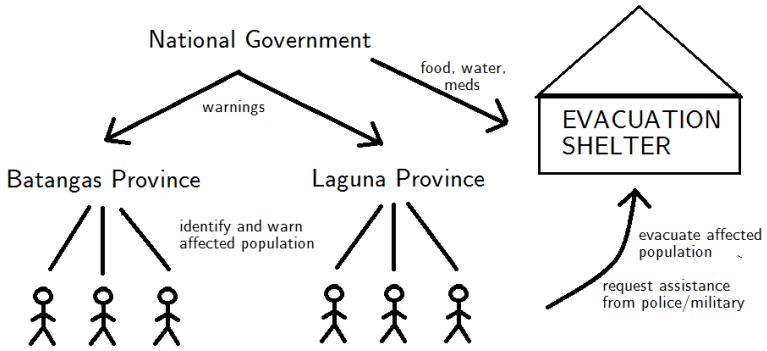
Figures

Figure 1: All Typhoon Tracks During the 2007-2014 Tropical Cyclone Seasons



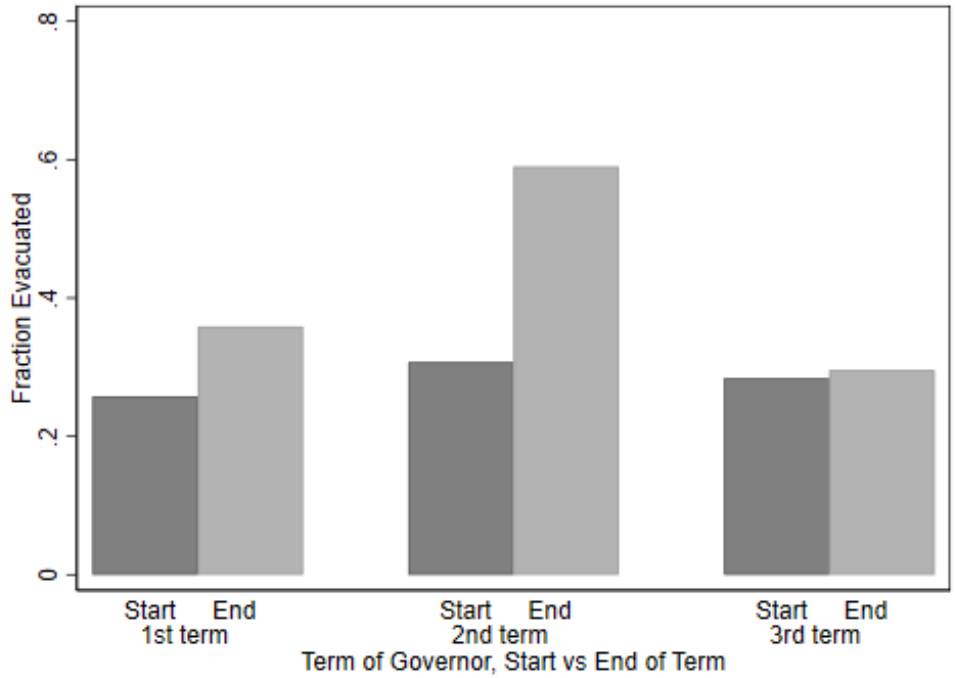
Note: The map shows tropical cyclone tracks plotted against the Philippines and its surrounding Area of Responsibility (surrounding border). While weather forecasters keep track of most storms that form in the Pacific or West Philippine Sea, they keep a closer watch on storms that enter the area inside the Philippine Area of Responsibility. The storm tracks shown on the map are from the 2007-2014 tropical cyclone seasons, the time period under study. This map also shows the borders of the 81 provinces under study.

Figure 2: Illustration of Evacuation Process



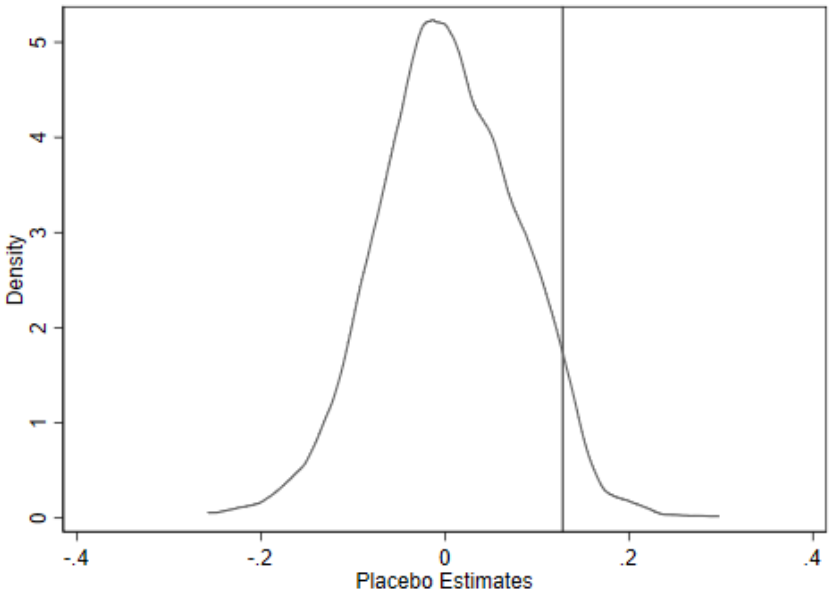
Note: The above is an author-drawn illustration of how the evacuation process works in the Philippines. National government agencies track natural disaster risks and notify the appropriate provincial governments. The governors' job is to first identify and warn the affected population, and then bring them to evacuation shelters. These evacuation shelters are kept at a state of readiness by national government agencies.

Figure 3: Fraction of Affected Population Evacuated, by Term and Time to the Next Election



Note: This figure shows the variation in the fraction of the affected population evacuated annually, by eligibility for re-election (according to term limits) and by time to the next election. The first two bars correspond to the evacuation performance of first-term governors, while the next two bars are for the second-term governors. The last two bars are the corresponding data for the governors that are ineligible to seek re-election due to term limits. For this graph, I exclude excludes term-limited governors who run for other province-level office after their third term. Appendix Figure A.1 shows the corresponding graph for the full sample of governors. For all types of governors, the darker bars represent evacuation rates at the start, or first two years of the term while the lighter bars represent evacuation rates at the end of the term, when elections are drawing near. Evacuations increase in the final year of governors still eligible for re-election, while little change is observed for the third-term governors.

Figure 4: Placebo Estimates



Note: This figure shows the resulting distributions of 1,000 placebo estimates of Equation 1. The dashed line marks the point estimate from Column 1, Panel A of Table 4. About 5 percent of placebo estimates lie to the right of this point estimate.

Tables

Table 1: Composition of Governors

Total number of governors	147	
By number of consecutive terms achieved:		
1	53	
2	45	
3	49	
Ran for other provincial office:	21	
Vice-Governor		1
Congress		18
Provincial Board		2

Note: The above table shows how many unique governors are in the data, broken down by the highest number of consecutive terms they achieved. It also shows how many of the 47 termed-out incumbents seek election to a different provincial office.

Table 2: Summary Statistics, by Term of Governor

Panel A. Breakdown of province-years by term of governor		
Governor is in:	Frequency	Percent
1st term	317	49.53
2nd term	194	30.31
3rd term	129	20.13

Panel B. Summary statistics			
Annual Averages:	Number of storms	Total Evacuated	Total Affected
All terms	1.97	39810	116361
	(1.61)	(119090)	(293794)
Gov. is in 1st term	1.93	31814	112783
	(1.67)	(108639)	(333098)
Gov. is in 2nd term	2.10	51354	134745
	(1.51)	(133701)	(274907)
Gov. is in 3rd term	1.88	42102	97505
	(1.61)	(119770)	(205252)

Note: The table summarizes the combined typhoons-elections data, where the detailed data on typhoons is annualized to form a balanced panel of provinces across time. Standard deviation in parentheses.

Table 3: Exogeneity Tests

	Total Affected Population	Number of Households	Number of Tropical Cyclones	Number of Direct Hits
Panel A. Excluding Provinces Whose Term-limited Governors Who Run For Other Office				
Re-election Eligibility	51381	4206	0.122	0.037
	(43338)	(4033)	(0.163)	(0.071)
	472	472	472	472
Panel B. All Provinces				
Re-election Eligibility	51254	3963	0.103	0.081
	(31665)	(3894)	(0.122)	(0.062)
Observations	640	640	640	640

Note: The table shows that re-election eligibility, which is used to construct the treatment variable, of the provincial governor does not predict the observed values of the province-level controls.

Table 4: The Effect of Increased Electoral Pressure on Evacuations.

	(1)	(2)	(3)	(4)	(5)	(6)
A. Log Evacuation Rate (OLS)						
Eligible to run for re-election	0.128*	0.149**	0.125*	0.127*	0.121	0.119
*year before elections	(0.0667)	(0.0739)	(0.0659)	(0.0676)	(0.0746)	(0.0750)
Eligible to run for re-election		0.0417				
*2 years before elections		(0.0683)				
B. Log Evacuation Rate (WLS)						
Eligible to run for re-election	0.156**	0.185*	0.150**	0.157**	0.167*	0.167*
*year before elections	(0.0744)	(0.0954)	(0.0746)	(0.0735)	(0.0849)	(0.0866)
Eligible to run for re-election		0.0596				
*2 years before elections		(0.0824)				
C. Arcsinh Evacuation Rate (OLS)						
Eligible to run for re-election	0.166*	0.189*	0.161*	0.164*	0.156	0.153
*year before elections	(0.0849)	(0.0943)	(0.0840)	(0.0860)	(0.0950)	(0.0951)
Eligible to run for re-election		0.0465				
*2 years before elections		(0.0868)				
Observations	472	472	472	472	472	472
Province and Year FE	x	x	x	x	x	x
Control for HH Population			x			x
Control for Direct Hits				x		x
Governor FE					x	x

Note: Each column represents a separate regression, based on Equation 1. The sample used here excludes provinces whose term-limited governors run for other province-level office after their third term. Estimates that use the full sample are presented in Appendix Table 6. The first two panels use the log of the evacuation rate as the dependent variables, and present estimates unweighted and weighted by province household population, respectively. The last panel uses the inverse hyperbolic sine transformation. The unit of observation is province-year. The time period spans the years 2007-2014. Robust standard errors are clustered at the province level.

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Table 5: Accounting for Term-limited Governors Who Run For Other Province-level Office.

	(1)	(2)	(3)	(4)	(5)	(6)
A. Log Evacuation Rate (OLS)						
Eligible to run for re-election	0.143**	0.165**	0.143**	0.142**	0.137*	0.138*
*year before elections	(0.0630)	(0.0706)	(0.0627)	(0.0637)	(0.0700)	(0.0705)
Ineligible but ran for other office	0.206*	0.242*	0.204*	0.191*	0.180	0.168
*year before elections	(0.109)	(0.126)	(0.109)	(0.110)	(0.122)	(0.124)
Eligible to run for re-election		0.0429				
*2 years before elections		(0.0650)				
Ineligible but ran for other office		0.0729				
*2 years before elections		(0.101)				
B. Log Evacuation Rate (WLS)						
Eligible to run for re-election	0.168**	0.198**	0.167**	0.168**	0.180**	0.184**
*year before elections	(0.0658)	(0.0900)	(0.0660)	(0.0653)	(0.0738)	(0.0756)
Ineligible but ran for other office	0.142	0.210*	0.141	0.146*	0.148	0.142
*year before elections	(0.0907)	(0.116)	(0.0906)	(0.0863)	(0.101)	(0.102)
Eligible to run for re-election		0.0596				
*2 years before elections		(0.0795)				
Ineligible but ran for other office		0.136				
*2 years before elections		(0.129)				
Observations	640	640	640	640	640	640
Province and Year FE	x	x	x	x	x	x
Control for HH Population			x			x
Control for Direct Hits				x		x
Governor FE					x	x

Note: Each column represents a separate regression, based on Equation 2. These regressions use the full sample of provinces, and treat third-term governors who run for other state-level office as similar to first and second-term governors (that is, also under electoral pressure). The first two panels use the log of the evacuation rate as the dependent variables, and present estimates unweighted and weighted by province household population, respectively. Robust standard errors are clustered at the province level.

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Table 6: *Not* Accounting for Term-limited Governors Who Run For Other Province-level Office.

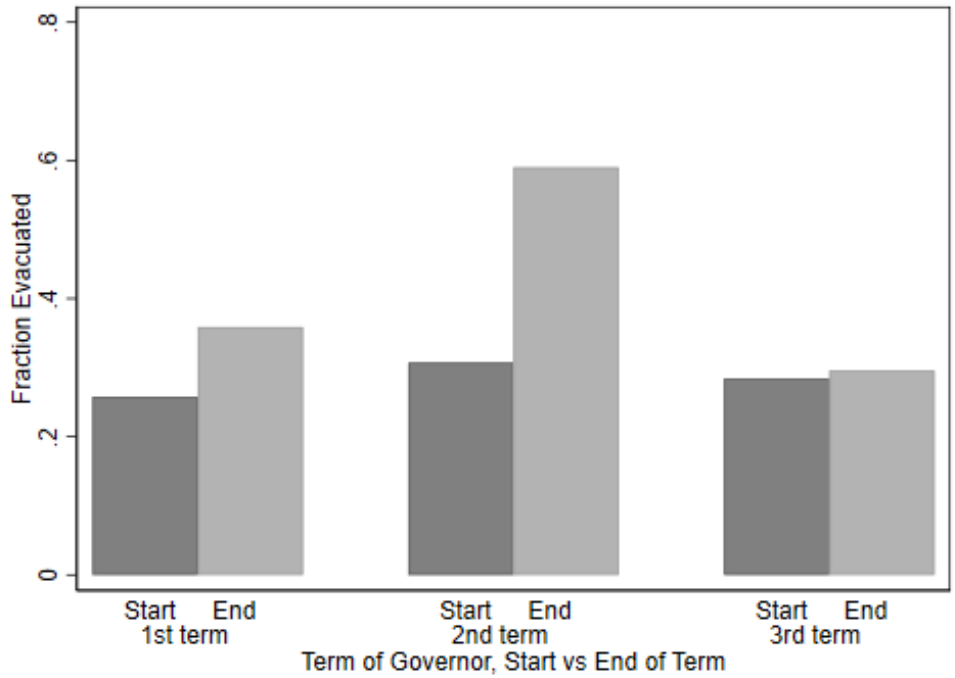
	(1)	(2)	(3)	(4)	(5)	(6)
A. Log Evacuation Rate (OLS)						
Eligible to run for re-election	0.0789	0.0851	0.0784	0.0822	0.0789	0.0838
*year before elections	(0.0594)	(0.0689)	(0.0591)	(0.0599)	(0.0645)	(0.0649)
Eligible to run for re-election		0.0123				
*2 years before elections		(0.0541)				
B. Log Evacuation Rate (WLS)						
Eligible to run for re-election	0.119**	0.119	0.118**	0.118**	0.133**	0.139**
*year before elections	(0.0573)	(0.0771)	(0.0569)	(0.0572)	(0.0637)	(0.0660)
Eligible to run for re-election		0.000693				
*2 years before elections		(0.0678)				
C. Arcsinh Evacuation Rate (OLS)						
Eligible to run for re-election	0.105	0.112	0.105	0.109	0.105	0.110
*year before elections	(0.0757)	(0.0876)	(0.0753)	(0.0762)	(0.0822)	(0.0825)
Eligible to run for re-election		0.0131				
*2 years before elections		(0.0689)				
Observations	640	640	640	640	640	640
Province and Year FE	x	x	x	x	x	x
Control for HH Population			x			x
Control for Direct Hits				x		x
Governor FE					x	x

Note: Each column represents a separate regression, based on Equation 1. These regressions use the full sample of provinces, and compare performance over the course of the term between re-election eligible and term-limited governors, regardless of their *ex-post* decision to run for office. The first two panels use the log of the evacuation rate as the dependent variables, and present estimates unweighted and weighted by province household population, respectively. The last panel uses the inverse hyperbolic sine transformation. The unit of observation is province-year. The time period spans the years 2007-2014. Robust standard errors are clustered at the province level.

* Significant at the 10% level
** Significant at the 5% level
*** Significant at the 1% level

A Appendix

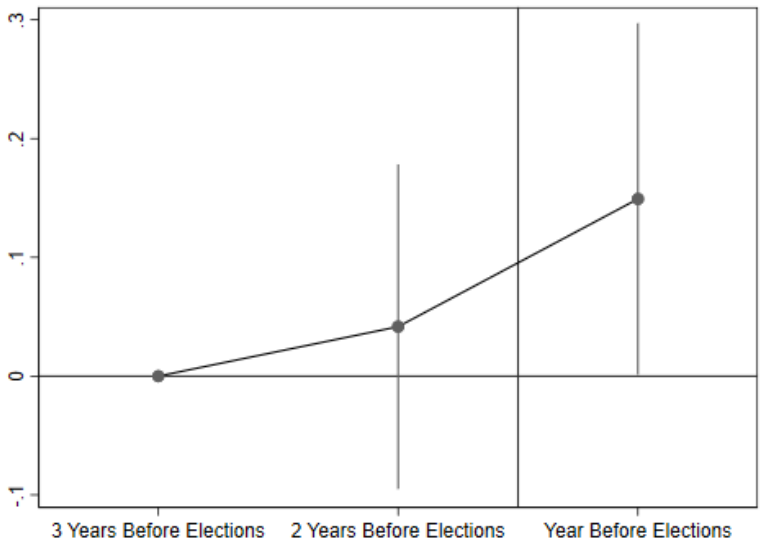
Figure A.1: Fraction of Affected Population Evacuated, by Term and Time to the Next Election, Full Sample



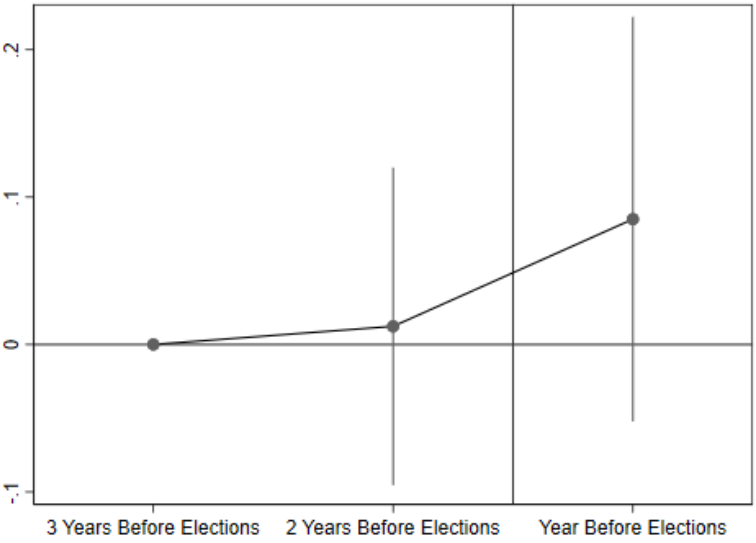
Note: This figure shows the variation in the fraction of the affected population evacuated annually, by eligibility for re-election (according to term limits) and by time to the next election. Evacuations increase in the final year of governors still eligible for re-election, while no change is observed for the third term governors.

Figure A.2: Fraction of Affected Population Evacuated, by Term and Time to the Next Election

(a) Panel A. Excluding Term-limited Governors Run For Other Office



(b) Panel B. All Governors



Note: This figure shows the estimated divergence in evacuations using coefficients from a dynamic specification that includes controls for province and year fixed effects. Evacuations increase only in the final year of governors still eligible for re-election, and not earlier in their term.