

# Institutional Constraints on the Executive, Investment, and Elections<sup>^</sup>

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In recent years, a variety of countries worldwide have experienced an increase in executive power. Longstanding concerns about this concentration include reduced property rights protection. Particularly for developing democracies, scholars theorize that a lack of institutional constraints on the executive may impede long-term investment. Analyzing this question empirically has proven difficult, however, because economic activity can affect political institutions and behavior. This paper, which analyzes four decades of data from 57 developing democracies, addresses the identification challenges by leveraging elections as a source of exogenous turnover and by accounting for the potential endogeneity of executive institutions. Consistent with the argument that institutional constraints reassure investors, the results suggest that as constraints on the executive increase, investment is less affected by prospective electoral turnover. Moreover, the results are stronger for presidential and semi-presidential systems with fixed elections, where the chief executive's term cannot be ended early by elections or the legislature, than for parliamentary systems.

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In recent years, various countries around the world have experienced an increase in the concentration of executive power. These countries range from developing democracies such as Bolivia to countries with historically strong constraints on executive power such as the United States (e.g., Haggard and Kaufman 2021). Longstanding concerns about this concentration include the potential for the infringement of minority rights (e.g., Haggard and Kaufman 2021), reduced protection of property rights (e.g., North and Weingast 1989), and the ability of a powerful executive to impede healthy democratic competition (e.g., Bermeo 2016). In this paper we focus on the property rights concern by analyzing the relationship between executive power and investment. Particularly for developing democracies, scholars have theorized that a lack of institutional constraints on the executive may impede long-term investment by increasing uncertainty around a leader's ability to alter policies or expropriate property, thereby exacerbating long-term inequality and impeding economic development (Acemoglu, Johnson, and Robinson 2002; Stasavage 2002; Cox and Weingast 2018). Yet studying the question empirically is challenging because economic activity itself can alter political institutions and behavior.

This paper leverages elections to offer new evidence on the question. In democracies elections provide a temporary spike in policy uncertainty given that government turnover can produce large policy shifts (e.g., Bernhard and Leblang 2006), and this spike causes private investment to decline in the run-up to an election, thereby creating an electoral cycle in investment (e.g., Canes-Wrone and Park 2012; Julio and Yook 2012).<sup>1</sup> Therefore, if institutional

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<sup>1</sup> Notably, this cycle is in opposite direction of the canonical opportunistic business cycle, in which the economy expands as an election nears due to incumbent policy manipulation (e.g., Nordhaus 1975; Golden and Min 2013).

constraints on the executive indeed reduce leaders' capacity to alter policies or expropriate property (e.g., Henisz 2000, 2002; Jensen 2008), the electoral cycle in investment should be smaller the higher is the level of formal executive constraints. The analysis accordingly uses the relatively exogenous event of elections to assess whether investors respond to the executive's institutional capacity to alter policy unilaterally. In doing so, we consider multiple measures of institutional constraints, their potential endogeneity, and whether effects vary between presidential and semi-presidential systems with fixed election timing versus systems where the chief executive's term is discretionary due to elections that can be called early and/or the ability of a parliament to replace the executive within the term.<sup>2</sup>

The data we analyze revolve around private fixed investment in a panel of 57 developing democracies from 1975-2017. Private fixed investment, such as telecommunications and construction projects, is a critical component of economic development (e.g., Henisz 2002). Moreover, the costliness of reversing these projects incentivizes withholding or delaying them when policy uncertainty is high (e.g., Bloom 2009; Montagnes and Wolton 2017). The focus on developing democracies involves contexts in which executive power sometimes changes dramatically in short time frames, enabling the use of country fixed effects that hold constant factors specific to the country.

Several findings emerge from the analyses. First, institutional constraints have a large impact on the relationship between investment and electoral cycles. At lower levels of constraints, a strong cycle between elections and investment appears, and as the constraints increase, this cycle becomes substantially weaker, losing significance at the highest levels.

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<sup>2</sup> As later described, we group together presidential systems with fixed elections and semi-presidential ones in which the president serves as the chief executive and cannot call an early election.

Second, the effect holds even in two-stage least squares analyses that allow for the endogeneity of the political institutions. Thus, the results are not merely a function of institutions changing in response to the economic and political context. Third, the findings are mostly driven by presidential regimes with fixed elections as opposed to systems in which the chief executive can be replaced by the parliament or an early election within a term. In particular, the estimated effects are larger and more robust for the former than the latter, consistent with the theoretical motivation that assumes investors can plan around election timing. Together, the findings suggest investors recognize formal constraints on the executive as property-rights enhancing institutions.

## **Literature Overview**

Numerous studies examine how institutional constraints on executive power relate to economic outcomes. For instance, Henisz (2000) develops a measure of constraints and shows it is positively associated with cross-national variation in economic growth, and Henisz (2002) demonstrates a similar association with infrastructure investment. Stasavage (2002) also uncovers a positive relationship between private investment and this measure. Correspondingly, the Polity measure of executive constraints (Gurr 1997; Marshall, Gurr, and Jagers 2019) is associated with lower premiums for political risk insurance in Jensen (2008) and with economic growth in Acemoglu, Johnson, and Robinson (2002).<sup>3</sup>

Scholars have been cognizant of the difficulty in disentangling the causal impact of institutions on economic outcomes, and various methods have been leveraged to gain traction. For example, Jensen (2008) supplements quantitative analysis with interviews, while Acemoglu,

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<sup>3</sup> For a review of the literature on the relationship between institutional constraints and economic outcomes, see Arias (2015).

Johnson, and Robinson (2002) conduct statistical analysis in which the institutional constraints are assumed to be endogenous. Despite these efforts, Abramson and Boix (2019) take issue with the underlying causal claim that constraints affect growth, arguing that in the case of the historical development of Europe, early urbanization spurred both executive constraints and growth. Closer to the approach of this paper, Cox and Weingast (2018) provide evidence that legislative power over the executive mitigates economic downturns at times of turnover in autocracies and democracies. However, their analyses either group together autocracies and democracies or examine autocracies in isolation, and prior scholarship suggests turnover in autocracies is a function of weak economic performance (e.g., Boix and Svulik 2013). Therefore, it is unclear whether the results extend to democracies. Moreover, even with respect to democracies, leadership replacement is more likely in economic downturns (e.g., Nadeau, Lewis-Beck, and Bélanger 2013), producing questions of whether it is the downturn leading to the leadership replacement or vice-versa.

Over past decades a series of studies, primarily of OECD countries, have examined elections as a source of policy uncertainty for investors without considering the role of institutional constraints on the executive (e.g., Bernhard and Leblang 2006; Canes-Wrone and Park 2012). This scholarship builds off the broader literature on the relationship between investment and policy uncertainty, which suggests irreversible or costly-to-undo investment is lower when policy uncertainty is high (e.g., Cukierman 1980; Bernanke 1983; Rodrik 1991).<sup>4</sup> It is worth highlighting that the pieces leveraging elections as a source of policy uncertainty do not

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<sup>4</sup> Other work that builds off this literature on irreversible investment does not analyze elections but also considers how the incentives for firms to make costly-to-undo investments relate to political conditions that influence policy uncertainty. For instance, Nooruddin (2011) considers how these firm incentives influence a country's growth volatility.

argue they discourage investment across all periods; rather, they produce a cycle in which investment declines in the period prior to the election and then increases when the electoral uncertainty subsides. In related work, Bak (2016) provides evidence of such electoral cycles in foreign direct investment in a set of countries spanning developed democracies, developing ones, and autocracies.

One could argue that electoral cycles in investment should be at least as pronounced in developing democracies as in OECD-type countries.<sup>5</sup> As Lupu and Riedl (2013, 1344) observe, there are “*vastly* greater levels of uncertainty in developing democracies” because of factors including the relative weakness of formal institutional constraints. Following this line of reasoning, we expect electoral cycles in investment to vary with the level of institutional constraints. In particular, the cycles should be larger the lower the level of constraints on the head executive’s capacity to enact new policies unilaterally.

Consider a regime that faces few checks and balances. Newly elected leaders could quickly change regulations, taxes, government subsidies, and other policies that could dramatically alter the profitability of an investment. By contrast, when formal executive constraints are such that a new leader cannot easily and quickly reverse existing policies, elections should induce lower policy uncertainty and by extension a lower electoral cycle in investment. We therefore expect the size of the electoral cycle in investment to be inversely associated with the level of institutional constraints on the executive; the higher the level of constraints, the smaller the decline in investment in the electoral period.

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<sup>5</sup> Supporting this argument, Block and Vaaler (2004) show that credit rating agencies reduce the ratings of developing countries in the 60 days before an election. Likewise, Kanyam (2020) finds that electoral cycles in private fixed investment exist in a set of African countries. Neither of these studies examines the role of institutional constraints, however.

Furthermore, we anticipate these effects will vary according to the predictability of the chief executive's term.<sup>6</sup> In systems with fixed terms, which are generally presidential or semi-presidential systems, investors can anticipate the election period with precision and adjust the timing of investment decisions accordingly. If instead an early election can be called, investors should obtain fewer benefits from timing their investments around the election calendar.<sup>7</sup> The ability of a parliament to replace the prime minister within a term weakens such timing benefits further. Consequently, not only the direct effect of the electoral cycle but also the interaction of this cycle with the level of institutional constraints should be higher in presidential systems with fixed elections than in other systems.<sup>8</sup>

In sum, there is debate about the extent to which institutional constraints on the executive influence private investment and empirical challenges regarding causal identification. In the following, we leverage elections as an exogenous source of policy uncertainty and argue that institutional constraints on the executive should minimize this uncertainty. Moreover, we present analyses that account for the potential endogeneity of these constraints, for confounding factors on investment including urbanization, and for potential differences between presidential and

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<sup>6</sup> Research on the canonical opportunistic business cycle similarly suggests that the effects may vary according to the predictability of the election timing. For a review of the conditionality of electoral business cycles, see Franzese and Jusko (2006), although note that this review does not concern the types of electoral investment cycles analyzed here, where investment declines as the election approaches. Moreover, as later discussed, some types of electoral business cycles that are theorized to influence total output do not make predictions about investment, such as in the case of the rational partisan theory.

<sup>7</sup> Discretionary election timing also opens the possibility that incumbents schedule elections during times of favorable economic conditions (e.g., Kayser 2005; Beckman and Schleiter 2020), which may bias results away from a negative effect of electoral proximity on investment.

<sup>8</sup> Bak (2016) shows that an electoral cycle in foreign direct investment (FDI) varies between presidential and parliamentary systems but does not examine how institutional constraints relate to this effect.

semi-presidential systems with fixed elections versus systems in which the chief executive can be removed through an early election and/or by the parliament.

## Empirical Strategy

Our dataset encompasses 57 developing democracies across Africa, Asia, Eastern Europe, and Latin America for which there are data on private fixed investment from the World Bank World Development Indicators (WDI). Appendix Table A1 lists these countries. The WDI economic data are annual and encompass the years 1975 through 2017. Following prior research (e.g., Acemoglu et al. 2019), we focus on country-year observations with a positive Polity score in the Marshall, Gurr, and Jagers (2019) database of countries' democratic characteristics and a Freedom House (2020) score of "free" or "partially free" on the basis of political rights and civil liberties.<sup>9</sup> Furthermore, we require that the country held elections that determine (directly or indirectly) the chief executive and, due to the inclusion of country-level fixed effects, at least three years of data.

The dependent variable *Private Fixed Investment Growth* captures the real year-over-year change (from year  $t-1$  to year  $t$ ) in country  $i$ . Although the OECD collects quarterly data on private fixed investment, the available data for a sufficient sample of developing countries is only at the annual level. For this reason, prior scholarship that analyzes fixed investment in these countries also uses annual data (e.g., Stasavage 2002; Cox and Weingast 2018). Descriptive statistics on all variables are given in Appendix Table A2. For the dependent variable and other economic variables, there are extreme outliers as well as a number of negative values, and we therefore follow common practice by winsorizing (e.g., Julio and Yook 2012). Specifically, the

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<sup>9</sup> To avoid concerns that data availability may be skewed towards observations that have high levels of democratic development, we exclude countries that join the OECD during the time series.

economic variables are winsorized at the 1% level (0.5% on each tail) in the main specifications. As discussed subsequently, the results are robust to the IHS log-transformation (e.g., Burbidge, Magee, and Robb 1988), which was created for log-transformations of data with many negative values, as well as to other types of log-transformations of the economic variables.

The two key independent variables of interest capture executive elections and constraints on the ability of the chief executive to alter policy without checks or oversight. Following prior work, we operationalize the election variable as an indicator that depends on when in the calendar year the election that determines the head executive occurred. Specifically, *Executive Election* equals 1 for an observation of private fixed investment in year  $t$  if the election occurred in the second half of year  $t$  or the first half of year  $t+1$  (e.g., Alesina, Cohen, and Roubini 1993). This coding reduces post-electoral effects in comparison to an indicator of whether the election occurred in the same calendar year.<sup>10</sup> In the online supplemental materials (Table S1), we present robustness checks with alternative measures, including an indicator for the calendar year and two separate indicators that capture the first and second half of the calendar year (Brender and Drazen 2005). These results support those in the main text. Because the focus is on elections for the head executive, *Executive Election* is based on presidential elections in presidential regimes, and parliamentary elections in parliamentary regimes. In semi-presidential regimes, the variable reflects the election of the dominant (or head) executive.<sup>11</sup>

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<sup>10</sup> We collected data on the year and month of relevant elections from the Database on Political Institutions (Cruz, Keefer, and Scartascini 2018) and cross-checked the information against additional sources such as the Inter-Parliamentary Union’s archive of parliamentary election results (<http://archive.ipu.org/parline-e/RecentElections.asp>) and online news searches.

<sup>11</sup> Please see the online supplemental materials (Section B) on regime coding for further description of how we coded parliamentary, presidential, and semi-presidential regimes, as well as the coding decisions for determining the head executive in semi-presidential regimes.

To capture institutional constraints on the head executive's ability to alter policy unilaterally, the main analyses rely on the widely used measure PolConV from the Political Constraint Index (Henisz 2000, 2017), which is based on the number of independent branches of government that can veto policy change, and the partisan alignment and partisan composition of the actors leading these institutions. The measure thus incorporates within-country variation, e.g., when measuring power-sharing in a majority coalition government. In such cases, the level of constraints will be lower for larger and relatively concentrated or homogenous coalitions. The resulting measure *Institutional Constraints* ranges from 0 to 1, with higher values indicating a lower ability of the chief executive to alter policy unilaterally (see e.g., Gray and Kucik 2017; Jeong and Peksen 2019). Later in the paper, we also present results from other measures, including from the Polity (Marshall, Gurr, and Jagers 2019) and Varieties of Democracy (otherwise known as V-Dem, Coppedge et al. 2020) databases.<sup>12</sup> For the main results, we focus on PolConV for several reasons. First, relative to the alternative measures, it is less dependent on ex-post evaluations of events (e.g., Gleditsch and Ward 1997; Glaeser et al. 2004, 272-3). Further, it incorporates a large number of potentially constraining institutions, including subnational ones. Some earlier research (e.g., Stasavage 2002) suggests that the effects may be nonlinear and examines specifications with a log transformation of this factor. We present findings with both the (non-transformed) linear measures and with log-transformed ones.<sup>13</sup>

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<sup>12</sup> As 2016 is the last year for which the PolConV index is currently available, we conduct all analyses containing measures of institutional constraints with samples that end in 2016.

<sup>13</sup> For the log transformations of the Henisz (2017) and V-dem (Coppedge et al. 2020) measures  $x$ , each of which range from 0 to 1, we use the transformation  $\ln(1+x*100)$ . Because the Polity data range from 1 to 7 in our data, the transformation is simply the natural log of this factor.

The control variables fall into two broad categories: political and economic. Prior work suggests higher overall economic growth is associated with the ideology of the government (e.g., Bjørnskov 2005), and although we examine private fixed investment rather than overall growth, we still control for government ideology. Specifically, we use a set of indicator variables based on the 2017 Database of Political Institutions (DPI) (Beck et al. 2001), a standard source that codes the head executive as left, right, center, or non-ideological (e.g., Leblang 2003; Bjørnskov 2005). In the regressions, the omitted category is the non-ideological governments. Similarly, the rational partisan theory (e.g., Alesina, Roubini, and Cohen 1997) predicts a temporary increase (decrease) in total output and inflation following a shift from a right (left) to a left (right) government, and the analysis accounts for the possibility that this pattern extends to private fixed investment. *Rational Partisan Theory* equals -1 if the government shifts from left to right in the year after the election (as measured by the elections indicator), 1 for a shift from right to left, and 0 otherwise. It is worth reiterating that for the main election effect on investment, we predict the sign opposite to that predicted by the canonical business cycle for total output. Accordingly, it should not be surprising if the effects of these ideological controls carry the opposite signs from those one might theoretically expect if the dependent variable were total output.

The economic controls encompass potential macroeconomic influences including prior economic growth, inflation, and interest rates. All these variables are available from the World Bank WDI. Following earlier scholarship, we measure economic growth with GDP per capita (e.g., Jensen 2008). Specifically, it equals lagged year-over-year change in real GDP per capita (in US\$). Inflation is measured as the year-over-year change in the consumer price index, and the interest rate variable equals the year-over-year change in the lending interest rate, adjusted for inflation. Because the interest rate data are available for only a subset of countries and years, and

because the World Bank’s methodological notes caution about the cross-country comparability of lending rates, we present results both with and without this control variable. As mentioned previously, in the main specifications the economic variables are winsorized at 1% and the results are robust to log transformations. Appendix Table A2, which reports the descriptive statistics, provides further details including the official WDI names.

Finally, and as specified further in the description of methods, we include in the main analyses a set of fixed effects for the country and year. The fixed effects capture investment patterns that are specific to a country across time and to a year across countries.<sup>14</sup> Hence, in both our dependent and independent variables of interest, the focus of the analysis is on within-country variation. Because the data involve developing democracies examined over a four-decade time span, there is reasonable within-country variation in institutional constraints. For our main measure, the mean within-country standard deviation in institutional constraints is 0.13, approximately half the standard deviation reported in Appendix Table A2 for the full dataset that incorporates across-country variation.

### **Estimation and Inference**

Equation (1) estimates for country  $i$  and year  $t$  the effect of election-induced uncertainty on private fixed investment and the extent to which it is moderated by institutional constraints:

$$(1) \text{ Private Fixed Investment Growth}_{it} = \alpha + \beta_1 \text{ Executive Election}_{it} + \beta_2 \text{ Executive Election}_{it} \times \text{ Institutional Constraints}_{it} + \beta_3 \text{ Institutional Constraints}_{it} + \gamma_i + \tau_t + \rho X_{it} + \varepsilon_{it}$$

The key coefficients are  $\beta_1$  and  $\beta_2$ , the former capturing the effect of executive elections on private investment absent institutional constraints and the latter reflecting the additional impact

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<sup>14</sup> Country-year effects cannot be included because the unit of analysis is the country-year. The results are robust to including a set of region-year effects, as shown in the online supplemental materials (Table S2).

of institutional constraints on this relationship. If our expectations are correct,  $\beta_1$  will be significantly negative and  $\beta_2$  significantly positive.<sup>15</sup>

The main specification employs the commonly used approach recommended by Beck and Katz (1995) of ordinary least squares (OLS) with panel-corrected standard errors (PCSE) to address panel-level heteroskedasticity, and a first-order autoregressive process to address serial correlation (e.g., Karaman and Pamuk 2013). In further specifications in the text and supplemental materials, results are shown with pooled OLS without the fixed effects, a fixed effects OLS model with Driscoll-Kraay standard errors (Driscoll and Kraay 1998), and a fixed effects OLS model with multi-way clustered standard errors (Correia 2016). The last two approaches represent different ways to deal with heteroskedasticity and serial correlation, in addition to addressing contemporaneous correlation across the panels.<sup>16</sup> As subsequently shown, the results from these alternative methods are consistent with those from the main specification.

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<sup>15</sup> Following current best practices for analyses with interaction effects (Hainmueller, Mummolo, and Xu 2019), we use the *interflex* estimation procedure in STATA to assess the validity of the functional form and the extent to which there is common support of the moderator institutional constraints for election and non-election years. The results, presented in the online supplemental materials (Figure S1), provide substantiation for the specification.

<sup>16</sup> The PCSE specification does not correct for contemporaneous correlation of the errors, since this procedure requires at least one common time period across all panels, and as mentioned previously, we have an unbalanced panel. The Driscoll and Kraay (1998) estimator corrects for contemporaneous correlation, heteroskedasticity, and serial correlation by applying a correction in the style of Newey-West to the sequence of cross-sectional averages of moment conditions. The specific implementation by the *xtscc* program in STATA (Hoechle 2007) permits the analysis of unbalanced panels by allowing the number of observations to vary by time period when calculating the sum of the individual time  $t$  moment conditions. In our specifications, we keep the program's default for the maximum lag to be considered in the autocorrelation structure (Hoechle 2007, 286).

In the main analyses, we address concerns related to the endogeneity of executive-constraining institutions through a combination of two-stage least squares (2SLS) regressions and additional control variables. Specifically, we build on Acemoglu, Johnson, and Robinson (2002) and Acemoglu and Johnson (2005) by using log population density in the year 1500 and the country's legal origin (civil-law vs. common-law origin) to instrument for executive constraints in the subset of countries that were colonized by European nations between 1500 and 1900.<sup>17</sup> Because the instruments do not vary within countries, we omit country fixed effects in the 2SLS analyses and replace them with region fixed effects, where the region is defined by the continent. The second-stage equation interacts institutional constraints with the executive elections indicator, and we therefore include as additional instruments interactions between the elections indicator and each of the population density and legal origins variables. This strategy for instrumenting interactions involving endogenous variables is standard (e.g., Wooldridge 2002). For the instruments to be valid, they must be correlated with institutional constraints but only affect investment growth through their effect on these constraints. Acemoglu, Johnson, and Robinson (2002) and Acemoglu and Johnson (2005) provide arguments and evidence for the validity of their exclusion restrictions, and as subsequently discussed, we provide additional support for our specifications via overidentification and endogeneity tests (see also notes following Supplemental Table S7).

In recent research, Abramson and Boix (2019) advance the argument that in Europe from 1200 to 1900 both economic growth and the development of executive constraints resulted from urban agglomeration that fostered technical knowledge among urban-dwelling artisans. Although our analysis focuses on a comparatively brief timespan of annual changes in investment, we

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<sup>17</sup> Acemoglu and Johnson (2005) analyze executive-constraining institutions as well as contracting ones.

nevertheless follow their approach and account for the possibility that urbanization is an omitted variable. Therefore, we include the percentage of the population living in urban areas, lagged by one year, as an additional control in the instrumental variables regression and, separately, as a control in an additional analysis of the main fixed effects specification.

Finally, we conduct analyses to address the potential for heterogeneous effects between presidential systems with fixed election dates versus ones that allow for the calling of early elections and/or early removal of the executive via the legislature. Unlike for developed democracies (Schleiter and Goplerud 2016), for developing ones there are no datasets that provide information on the relative ease of dissolving the legislature and calling for new elections in parliamentary systems or semi-presidential ones. Therefore, we code the variable *Presidential-Fixed Election System* as 1 in presidential systems in which an early election cannot be called and semi-presidential systems in which the president both serves as the chief executive and cannot call an early election. For all observations with parliamentary systems, presidential systems that allow the president to call an early election, or semi-presidential systems where either the president is not the chief executive or can call a new election that would determine the president, the variable equals 0. While there is certainly variation in formal restrictions to dissolve parliaments, an examination of the electoral systems of country-year observations in our sample did not indicate any strict fixed-term parliaments.<sup>18</sup> A relatively unusual system exists in Guyana, which is sometimes described as semi-presidential. Here, the president is head of government, and the presidency is assigned to the leader of the party winning most votes in the

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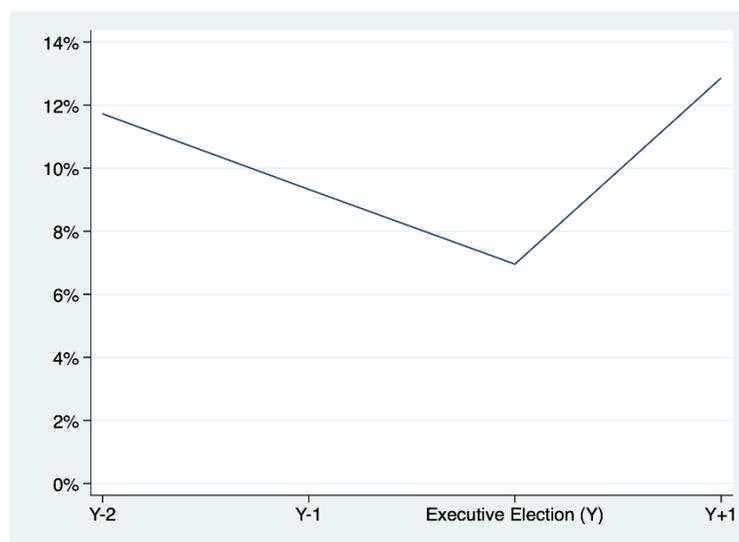
<sup>18</sup> An example of a strict formal requirement for dissolution currently exists in Sri Lanka, where a two-thirds majority is required to call for new elections. However, the observations for Sri Lanka in our panel precede a 2015 reform instituting this requirement.

election. However, the Guyanese president can also call for new elections. Therefore, we coded the variable *Presidential-Fixed Election System* as 0 for Guyana. In total, the data include 38 systems that satisfy our criteria for fixed presidential elections.<sup>19</sup>

## Results

We first show the basic patterns of the electoral cycle in the pooled sample, absent any accounting for institutional constraints on the executive. As Figure 1 depicts, in the pre-election period that is captured by *Executive Election*, average private fixed investment growth is lower than in either of the two preceding years or the following year. On average, (real) private fixed investment growth is around 7.0 percent in the pre-election year and ranges between averages of 9.3 to 12.9 percent in the surrounding years.

**Figure 1. Average Private Fixed Investment Growth**



Note: Private fixed investment growth reflects year-over-year change in each country *i*. Figure 1 reports the average change across all countries in the pre-election period associated with the variable *Executive Election*, the two preceding years, and the following year.

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<sup>19</sup> Because Moldova and Sri Lanka switch systems, they are included, with different years, in both samples.

This relationship is similar to that from a pooled OLS analysis, as shown in Column (1) of Table 1. The estimate on the election variable suggests a decline in private fixed investment of approximately 3.3 percentage points in the pre-election year relative to all other variables. Notably, however, Column (2) highlights that this effect is not evenly distributed. The coefficient on *Executive Election* remains significantly negative and the coefficient on the interaction *Executive Election x In Institutional Constraints* is significantly positive, suggesting that the size of the electoral investment cycle is lower when there are higher levels of institutional constraints. Columns (3) and (4) show this finding for our main specification, which incorporates the country and year fixed effects along with panel-corrected standard errors. In Column (3), the log-transformed constraints variable is included while Column (4) presents results with the linear (non-transformed) variable. In either case, the estimates suggest the electoral cycle is mitigated substantially by formal limits on the executive's capacity to move policy unilaterally. Column (4) suggests that at the lowest levels of institutional constraints, private fixed investment declines 12.7 percentage points in the pre-election period, but that for each standard deviation increase in the constraints index, the effect subsides by approximately 4.8 percentage points. Likewise, Column (3) suggests a baseline electoral cycle of 22.5 percentage points, with a standard deviation increase in the log transformed constraints index mitigating the decline by 4.5 percentage points. In each column, at larger values of the constraints index (e.g., above 3.2 for the logged measure), the electoral investment cycle is no longer statistically significant.

Continuing with Table 1, Column (5) shows the results on institutional constraints if no election variables are included. Interestingly, while the main effect of constraints is not significantly positive in Columns (2)-(4), in Column (5) it is. This result in Column (5) is consistent with earlier work that does not examine electoral investment cycles and finds a direct

**Table 1.** Institutional Constraints on the Executive and Electoral Investment Cycles

|  | Pooled<br>OLS<br>(1) | Pooled<br>OLS<br>(2) | PCSE<br>(3)         | PCSE<br>(4)        | PCSE<br>(5) | Two-way<br>Clustered<br>SEs<br>(6) | Driscoll-<br>Kraay<br>(7) | PCSE,<br>Interest<br>Rate<br>(8) |
|--|----------------------|----------------------|---------------------|--------------------|-------------|------------------------------------|---------------------------|----------------------------------|
| Executive election                                   | -3.28*<br>(1.85)     | -26.60***<br>(7.80)  | -22.50**<br>(10.28) | -12.72**<br>(5.67) |             | -22.21**<br>(8.29)                 | -22.21**<br>(9.76)        | -21.74**<br>(9.70)               |
| Executive election × ln<br>Institutional constraints |                      | 6.40***<br>(2.07)    | 5.59**<br>(2.61)    |                    |             | 5.53**<br>(2.08)                   | 5.53**<br>(2.57)          | 5.48**<br>(2.38)                 |
| ln Institutional constraints                         |                      | -2.47<br>(1.52)      | 0.42<br>(1.90)      |                    |             | 3.05*<br>(1.70)                    | 0.06<br>(1.99)            | -4.78**<br>(2.12)                |
| Executive election ×<br>Institutional constraints    |                      |                      |                     | 22.06**<br>(9.47)  |             |                                    |                           |                                  |
| Institutional constraints                            |                      |                      |                     | -4.88<br>(6.63)    |             |                                    |                           |                                  |
| Δ Interest rate                                      |                      |                      |                     |                    |             |                                    |                           | -0.44**<br>(0.17)                |
| Standard controls                                    | ✓                    | ✓                    | ✓                   | ✓                  | ✓           | ✓                                  | ✓                         | ✓                                |
| Country Fes  |                      |                      | ✓                   | ✓                  | ✓           | ✓                                  | ✓                         | ✓                                |
| Year Fes   |                      |                      | ✓                   | ✓                  | ✓           | ✓                                  | ✓                         | ✓                                |
| N  | 1069                 | 1069                 | 1069                | 1069               | 1069        | 1069                               | 1069                      | 810                              |

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , two-tailed. The dependent variable is Private Fixed Investment Growth. Standard errors are in parentheses. Columns 1 and 2 report Huber-White standard errors. Columns 3, 4, 5, and 8 report panel-corrected standard errors. Column 6 reports multi-way clustering at the country and year level and Column 7 reports Driscoll-Kraay standard errors. Standard controls include Left, Center, and Right government, Rational Partisan Theory, lagged change in real GDP per capita (\$US) and the inflation rate. Coefficient estimates for the standard control variables are presented in Appendix Table A3.

positive relationship between institutional constraints and investment (e.g., Henisz 2002; Stasavage 2002). Indeed, arguably Column (5) is a tougher test of this direct relationship given the comparably short time span of the data combined with the inclusion of country fixed effects; for instance, Henisz examines a period of two hundred years and Stasavage acknowledges his results are not generally significant once country effects are included. Possibly with a multi-century time span such as in Henisz, we would find effects outside the pre-election period as well.

Columns (6) and (7) show that the results extend to alternative specifications, including with multi-clustered standard errors by country and year and with Driscoll-Kraay standard errors. Column (8) returns to the main PCSE model but includes the interest rate control, which reduces the sample size due to data availability. The control itself has the predicted negative relationship with investment. At the same time, the estimates on the institutional constraints and election variables are remarkably consistent between the specifications with and without this control, suggesting it does not alter the main findings. Because the control is not available for the full set of observations, and because its inclusion does not alter the main substantive findings, we present future results in the text without it.

Appendix Table A3 presents the estimates for the other controls. The inflation rate has a significantly negative relationship with investment in multiple models and a negative one in all specifications other than that with the interest rate control. Higher rates of inflation tend to be associated with higher interest rates, and therefore in the models without the interest rate control, the inflation variable may be capturing these effects. The political ideology variables generally do not have significant effects, and when the rational party theory control is significant the relationship with investment is negative. As mentioned earlier, the theories regarding these

variables are focused on total output rather than investment and given that electoral business cycles operate differently for investment versus total output, arguably it is unsurprising that other political variables operate differently as well. Moreover, the results are robust to excluding the ideology controls, as shown in the online supplemental materials (Table S2).

Overall, Table 1 suggests that even controlling for a variety of factors, executive elections induce a decline in investment that is mitigated by constraints on the executive's capacity to move policy unilaterally. This finding suggests that investors are indeed responsive to the concentration of executive power. To assess the robustness of the finding, we analyze a number of alternative specifications. In the online supplemental materials, Table S1 shows robustness to different operationalizations of the electoral cycle, and Table S3 to using a log transformation of the economic variables (where a constant based on the lowest negative value is added to ensure all values are above 0) or the log-based IHS transformation (e.g., Burbidge, Magee, and Robb 1988). Likewise, Table S3 demonstrates that the key effects remain significant when high-leverage outlying observations are simply removed. In Supplemental Table S4, the analyses establish the persistence of a moderating effect of institutional constraints when controlling for conceptually distinct components of democratic development, including electoral accountability as reflected in V-Dem's Free and Fair Elections measure (Coppedge et al. 2020) and the updated continuous Machine Learning Democracy Index (Gründler and Krieger 2021).

A related concern might be that the findings are particular to the measure of institutional constraints on the executive. Accordingly, in Table 2, we replace PolConV with the Coppedge et al. (2020) Varieties of Democracy (V-Dem) Liberal Component index (v2x\_liberal in the V-Dem database) and the Marshall, Gurr, and Jagers (2019) Polity Executive Constraints score (XCONST in the Polity database). The former, which we label *Liberal Component Index*,

averages over indices that measure judicial constraints on the executive, legislative constraints on the executive, individual liberties, and equality before the law; the raw values range from 0 to 1. The Polity-based variable *XCONST* ranges from 1 to 7 and is set up to capture constraints on the chief executive from groups that provide accountability, including from the legislature and judiciary as well as, where applicable, the ruling party or military. As with the main measure of institutional constraints, we present results with the linear and logged versions of the variables.

**Table 2.** Alternative Measures of Institutional Constraints

|  | ln XCONST<br>(1)    | Linear<br>XCONST<br>(2) | ln Liberal<br>Component<br>Index<br>(3) | Linear Liberal<br>Component<br>Index<br>(4) |
|--|---------------------|-------------------------|---|---|
| Executive election                                 | -44.63**<br>(18.44) | -28.27**<br>(12.56)     | -38.56<br>(24.50)                       | -14.59*<br>(7.52)                           |
| Executive election × ln XCONST                     | 24.11**<br>(10.01)  |                         |   |   |
| ln XCONST  | -28.76***<br>(7.58) |                         |   |   |
| Executive election × XCONST                        |                     | 4.40**<br>(1.96)        |   |   |
| XCONST   |                     | -6.00***<br>(1.58)      |   |   |
| Executive election x ln Liberal<br>component index |                     |                         | 8.77<br>(5.87)                          |   |
| ln Liberal component index                         |                     |                         | -3.66<br>(5.60)                         |   |
| Executive election x Liberal<br>component index    |                     |                         |   | 18.90*<br>(10.70)                           |
| Liberal component index                            |                     |                         |   | -12.47<br>(11.76)                           |
| Standard controls                                  | ✓                   | ✓                       | ✓                                       | ✓   |
| Country FEs  | ✓                   | ✓                       | ✓                                       | ✓   |
| Year FEs   | ✓                   | ✓                       | ✓                                       | ✓   |
| N  | 1057                | 1057                    | 1069                                    | 1069  |

Note: The dependent variable is Private Fixed Investment Growth. All columns report panel-corrected standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , two-tailed. Estimates on control variables are provided in the online supplemental materials (Table S5).

Regardless of the measure of institutional constraints in Table 2, the interaction effect is positive, and in three of the four cases it reaches conventional levels of significance. Moreover, in the case where it is below conventional levels ( $p < 0.1$ , one-tailed), the estimates reach significance in alternative specifications including with multi-clustered standard errors or Driscoll-Kraay standard errors, as shown in the online supplemental materials (Table S6). Furthermore, with each measure the magnitudes are comparable to those with *PolConV*. For example, according to models with the linear constraints variables, an increase of one standard deviation in *Liberal Component Index* and *XCONST* increases the marginal effect of *Executive Election* by 4.7 and 3.2 percentage points, respectively (compared to 4.8 percentage points for *PolConV*). Table 2 thus provides further evidence that executive elections induce electoral investment cycles that are mitigated by the level of institutional constraints.

Arguably an even larger concern about the estimation is the potential for endogenous institutions. Although the concern may be less critical here than for studies of longer periods of time, there remains the possibility that the institutions could shift across the electoral cycle in ways that conflate with an investment cycle. For instance, executives might try to reduce constraints to increase their own policymaking capacity in pre-election periods. Accordingly, Table 3 addresses the potential for endogenous institutions with the previously described specification and instruments, which include the legal origin and population density in the year 1500 (Acemoglu, Johnson, and Robinson 2002; Acemoglu and Johnson 2005). As noted earlier, because these instruments were designed for former colonies, the analysis is limited to these countries, and because the instruments do not vary within a country, the country fixed effects are excluded (although region fixed effects are included).

Columns (1) and (2) of Table 3 present the results from a pooled OLS regression as a baseline comparison. These results are substantively similar to those in the pooled OLS analysis of Table 1, suggesting that the sample of former colonies does not materially alter the findings. Columns (3) and (4) describe the 2<sup>nd</sup>-stage results from the 2SLS analysis, which uses the instruments from Acemoglu and Johnson (2005) and then builds on the Abramson and Boix (2019) critique by including in both stages of the specification lagged urbanization and the interaction of lagged urbanization with the elections variable. Notably, each column of results suggests there is a significant and positive moderating effect of executive constraints on investment in the election period. Depending on the specification, the magnitudes of the coefficients on the interaction involving institutional constraints and the main effect of elections are a bit more than quadruple (logged constraints) or double (linear constraints) the size of the analogous estimates from specifications that assume exogeneity of the constraints. The results accordingly suggest that, if anything, accounting for the endogeneity of the institutions increases the size of the estimated impacts.

The online supplemental materials (Table S7) present the first-stage results. As this table and associated description details, the instruments are jointly significant in each first-stage equation at  $p < 0.05$ , two-tailed. Furthermore, overidentification tests fail to reject the null that the instruments lack a direct impact on private fixed investment. Finally, specification testing fails to reject the null that the institutional constraints are exogenous, suggesting that the one-equation model is appropriate. Full details are in the supplemental materials.

Columns (5) and (6) of Table 3 return to the main PCSE specification but also include lagged urbanization and the interaction of lagged urbanization with the executive election indicator as additional controls. Again, the inclusion of these controls does not substantively alter

**Table 3.** Endogenous Political Institutions and Urbanization

|   | Pooled<br>OLS<br>(1) | Pooled<br>OLS<br>(2) | 2SLS 2 <sup>nd</sup><br>Stage<br>(3) | 2SLS 2 <sup>nd</sup><br>Stage<br>(4) | PCSE<br>(5)         | PCSE<br>(6)        |
|---|----------------------|----------------------|--------------------------------------|--------------------------------------|---------------------|--------------------|
| Executive election  | -28.58**<br>(11.49)  | -15.39***<br>(5.43)  | -117.98**<br>(57.71)                 | -47.07**<br>(21.48)                  | -26.67**<br>(11.82) | -17.35**<br>(8.28) |
| Executive election × ln<br>Institutional constraints <sup>†</sup> | 7.16**<br>(3.00)     |                      | 31.40**<br>(15.92)                   |                                      | 5.57**<br>(2.60)    |                    |
| ln Institutional constraints <sup>†</sup>                         | -2.78<br>(2.45)      |                      | -14.79<br>(13.48)                    |                                      | 0.22<br>(1.92)      |                    |
| Executive election ×<br>Institutional constraints <sup>†</sup>    |                      | 28.21***<br>(10.41)  |                                      | 94.37*<br>(50.28)                    |                     | 22.05**<br>(9.43)  |
| Institutional constraints <sup>†</sup>                            |                      | -15.91**<br>(6.57)   |                                      | -24.52<br>(25.23)                    |                     | -6.24<br>(6.82)    |
| Executive election ×<br>Lagged % urban                            |                      |                      | -0.13*<br>(0.08)                     | -0.14*<br>(0.07)                     | -0.36<br>(0.23)     | -0.41*<br>(0.23)   |
| Lagged % urban  |                      |                      | 0.07<br>(0.11)                       | 0.11<br>(0.14)                       | 0.09<br>(0.10)      | 0.10<br>(0.10)     |
| Standard controls   | ✓                    | ✓                    | ✓                                    | ✓                                    | ✓                   | ✓                  |
| Country FEs   |                      |                      |                                      |                                      | ✓                   | ✓                  |
| Region Fes  |                      |                      | ✓                                    | ✓                                    |                     |                    |
| Year Fes  |                      |                      | ✓                                    | ✓                                    | ✓                   | ✓                  |
| N   | 813                  | 813                  | 813                                  | 813                                  | 1069                | 1069               |

Note: The dependent variable is Private Fixed Investment Growth. Columns 1-4 report Huber-White standard errors. Columns 5 and 6 report panel-corrected standard errors. The first stage results for Columns 3 and 4 are reported in the supplemental materials (Table S7). The instruments for Institutional Constraints are the log of population density in 1500, the country's legal origin, and the interactions of both variables with Executive Election. Control variable estimates are presented in online Supplemental Table S8. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , two-tailed.

the main findings regarding institutional constraints. In each specification, executive elections induce a decline in private fixed investment and this decline is mitigated by the level of institutional constraints on the executive. Thus, even accounting for the endogeneity of institutions and urbanization, the results support our expectations.

In sum, Table 3 pushes on the identification challenges inherent in analyzing the relationship between institutions and economic outcomes. Executive elections themselves serve as a relatively exogenous source of potential policy change for investors, generated by the

prospect of leadership replacement, and this policy uncertainty is heightened the lower are the institutional constraints on the executive. The 2SLS findings indicate that even when these constraints are modeled as endogenous, they mitigate the investment cycles induced by elections. Overall, Tables 1, 2 and 3 demonstrate that across a variety of measures and statistical models, institutional constraints on executive power reduce electoral investment cycles, consistent with the argument that investors respond to the concentration of executive power.

Table 4 builds on these findings to test the prediction that the effects should be stronger in presidential systems with fixed election dates. When the chief executive's term is fixed versus discretionary—that is, it cannot be ended early by either a snap election or the legislature—the level of institutional constraints should have a larger effect on investors' incentives to time investment decisions in accordance with the election cycle. Columns (1)-(4) compare across the systems using the standard specification, first for the logged measure of institutional constraints and then for the linear measure. In each case, for the presidential systems with fixed elections (Columns 1 and 3) the coefficient on *Institutional Constraints* interacted with *Executive Election* is significantly positive, as expected, and the coefficient on the main effect of *Executive Election* is significantly negative, also as in prior analyses. Moreover, the magnitudes of the effects are more than double those for discretionary elections in Columns (2) and (4).<sup>20</sup>

Table 4 further suggests that when the country and year effects are included in the analysis of the systems with discretionary executive terms, there is not a significant effect of either the interaction involving institutional constraints or the main effect of executive elections.

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<sup>20</sup> The online supplemental materials (Table S10) show that the results for systems with discretionary elections hold even with 2SLS analyses that account for the endogeneity of these elections; full details are given in the supplemental materials.

**Table 4.** Presidential Systems with Fixed Elections

|  | President-<br>Fixed<br>(1) | Disc.<br>(2)     | President-<br>Fixed<br>(3) | Disc.<br>(4)    | President-<br>Fixed<br>(5) | Disc.<br>(6)       |
|--|----------------------------|------------------|----------------------------|-----------------|----------------------------|--------------------|
| Executive election                                   | -31.10*<br>(15.97)         | -9.43<br>(12.01) | -15.57**<br>(8.05)         | -3.04<br>(6.96) | -34.70**<br>(16.06)        | -19.06**<br>(9.47) |
| Executive election × ln<br>Institutional constraints | 7.53*<br>(4.22)            | 2.87<br>(2.96)   |                            |                 | 8.47**<br>(4.23)           | 5.22**<br>(2.35)   |
| ln Institutional constraints                         | -1.45<br>(2.51)            | 4.27<br>(3.64)   |                            |                 | -3.14<br>(2.33)            | -1.83<br>(1.91)    |
| Executive election ×<br>Institutional constraints    |                            |                  | 25.90*<br>(15.17)          | 7.83<br>(11.06) |                            |                    |
| Institutional constraints                            |                            |                  | -10.01<br>(8.98)           | 6.72<br>(9.68)  |                            |                    |
| Standard controls                                    | ✓                          | ✓                | ✓                          | ✓               | ✓                          | ✓                  |
| Country FEs  | ✓                          | ✓                | ✓                          | ✓               |                            |                    |
| Year FEs   | ✓                          | ✓                | ✓                          | ✓               | ✓                          | ✓                  |
| N  | 627                        | 436              | 627                        | 436             | 627                        | 436                |

Note: The dependent variable is Private Fixed Investment Growth. All columns report panel-corrected standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , two-tailed. Control variable estimates are presented in the online supplemental materials (Table S9).

Because the number of observations for the systems with discretionary executive terms is arguably low relative to the full set of predictors including the country and year effects, we also show results excluding the country effects, in Columns (5) and (6). The results again suggest that the effects are larger in presidential systems with fixed elections, but here significant coefficients emerge in the other systems as well. These findings, combined with the similar qualitative results in the other columns, indicate that if more years of data were available, the estimates for the systems with discretionary executive terms might be significant at conventional levels even with country fixed effects. The fact that the magnitudes are lower in these systems than in the presidential ones across all specifications, however, suggests a stronger impact when investors can predict with accuracy the timing of potential executive turnover.

Overall, Table 4 offers a good deal of evidence in support of the theoretical expectations. When firms and investors can anticipate the end of the chief executive's term, an electoral investment cycle emerges that is countered by checks and balances on the executive's ability to move policy unilaterally. In particular, investors are less apt to take on costly-to-undo investments prior to learning who the new chief executive will be, but institutional constraints reduce this incentive by minimizing the policy uncertainty associated with executive turnover. In systems with discretionary executive terms, these effects are weaker and less robust, but there is still evidence that institutional constraints influence investors' response to potential executive turnover. In sum, the relationship among the executive electoral system, institutional constraints on the executive, and private fixed investment is consistent with a world in which the concentration of executive power influences investors' decisions in developing democracies.

## **Discussion and Conclusion**

This paper has provided new evidence regarding investors' response to the concentration of executive power in developing democracies. The evidence is based on analysis of the relationship among institutional constraints on executive power, private fixed investment, and elections in an unbalanced panel of 57 democracies across four decades. Because elections provide a reasonably exogenous source of potential executive turnover, the analysis can assess how institutional constraints shape investment decisions when investors know that a new chief executive might (or might not) soon take office. Interestingly, the results show that even though there is an overall impact of institutional constraints on investment when the electoral cycle is ignored, once it is accounted for, the effects of institutional constraints are concentrated in the election period. In the run-up to the election, higher levels of institutional constraints mitigate an electoral cycle in investment, suggesting the constraints reassure investors that large shifts in

policy are less dependent on a singular chief executive. These findings hold across specifications that account for the endogeneity of institutional constraints, the potential impact of urbanization on investment, and differential effects between presidential and semi-presidential systems with fixed terms on the one hand and systems with discretionary executive terms on the other.

Notably, although we have leveraged elections to identify a relatively exogenous shock to executive policymaking, the analysis does not suggest that elections, let alone democratic development, are bad for investment. Elections themselves simply serve as a temporary spike in policy uncertainty that abates after a new chief executive is selected. Moreover, the evidence on the interaction of institutional constraints and executive elections suggests that at least this component of democratic development is recognized by investors as reducing policy uncertainty and instability. As such, the results are consistent with the argument that efforts to increase capital investment should benefit from strengthening institutions designed to constrain unilateral executive policymaking.

The findings raise broader questions about the potential effects of the concentration of executive power in developed democracies. On the US specifically, a good deal of research has highlighted the importance of unilateral action to the modern presidency (e.g., Howell and Moe 1999), the lack of durability of these policies (e.g., Thrower 2017), combined with high public expectations for the president to take on the most pressing problems of the day. As Lowi (1985, 20) notes, a “new democratic theory” has evolved in which the public as well as other branches of government perceive “that the presidency with all powers is the necessary condition for governing a large, democratic nation.”<sup>21</sup> And although Lowi laments this development by

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<sup>21</sup> Although cf. Christenson and Kriner (2020) for evidence that public opinion also places informal checks on unilateral action by the US president.

arguing presidents will ultimately disappoint the public due to its unrealistic expectations, other scholars argue that the US should grant the president an even greater policymaking capacity in order to manage the complex policy challenges facing the country (Howell and Moe 2016). This article has analyzed only one aspect of concentrating power in the executive, and even within that context, is focused on causally identifying effects that revolve around election cycles in developing democracies. Thus, any extrapolation to the question of executive power in the US and other more developed democracies should be done with extreme caution. That said, the findings highlight investors respond in their financial decisions to the concentration of executive power by recognizing that it enables the value of longer-term investments to shift quickly.

As noted in the introduction, a range of countries worldwide have recently experienced a concentration of executive power. Moreover, some have experienced not simply a modest to moderate transfer of power to the executive but more substantial democratic backsliding. Haggard and Kaufman (2021) point to not only the US as a recent example of democratic backsliding but also European Union members Greece, Hungary, and Poland. Future research might examine whether the effects revealed here for developing democracies extend to more developed ones and if so, whether variation exists depending on whether the country is experiencing democratic backsliding more broadly.

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## Appendix

**Appendix Table A1.** List of Countries

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|                    |                 |                 |                  |
|--------------------|-----------------|-----------------|------------------|
| Albania            | El Salvador     | Liberia         | Pakistan         |
| Bangladesh         | The Gambia      | Madagascar      | Panama           |
| Bhutan             | Georgia         | Malawi          | Papua New Guinea |
| Bolivia            | Ghana           | Malaysia        | Peru             |
| Botswana           | Guatemala       | Mali            | Philippines      |
| Brazil             | Guinea-Bissau   | Mauritius       | Romania          |
| Bulgaria           | Guyana          | Moldova         | Russia           |
| Burundi            | Haiti           | Mongolia        | Senegal          |
| Colombia           | Honduras        | Mozambique      | Sierra Leone     |
| Republic of Congo  | India           | Namibia         | South Africa     |
| Costa Rica         | Jamaica         | Nepal           | Sri Lanka        |
| Côte d'Ivoire      | Kenya           | Nicaragua       | Thailand         |
| Croatia            | Kyrgyz Republic | Niger           | Ukraine          |
| Dominican Republic | Lebanon         | North Macedonia | Uruguay          |
| Ecuador            |                 |                 |                  |

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**Appendix Table A2. Descriptive Statistics**

| <b>Variable Name</b>                                    | <b>N</b> | <b>Mean</b> | <b>Std. Dev.</b> | <b>Min.</b> | <b>Max.</b> |
|---|----------|-------------|------------------|-------------|-------------|
| Private fixed investment growth (%)                     | 1069     | 9.476       | 32.503           | -53.358     | 295.537     |
| Private fixed investment growth (%),<br>unwinsorized    | 1069     | 11.810      | 71.689           | -75.755     | 1625.817    |
| Executive election                                      | 1069     | 0.221       | 0.415            | 0           | 1           |
| Institutional Constraints (PolConV)                     | 1069     | 0.476       | 0.217            | 0           | 0.855       |
| ln Institutional Constraints (PolConV)                  | 1069     | 3.697       | 0.808            | 0           | 4.460       |
| XCONST (Polity)   | 1057     | 5.854       | 1.064            | 3           | 7           |
| ln XCONST (Polity)                                      | 1057     | 1.748       | 0.203            | 1.100       | 1.946       |
| Liberal component index (V-Dem)                         | 1069     | 0.641       | 0.171            | 0.187       | 0.934       |
| ln Liberal component index (V-Dem)                      | 1069     | 4.119       | 0.304            | 2.929       | 4.537       |
| lagged per capita GDP growth (in \$US)                  | 1069     | 0.064       | 0.130            | -0.373      | 0.600       |
| lagged per capita GDP growth (in \$US),<br>unwinsorized | 1069     | 0.064       | 0.135            | -0.522      | 0.983       |
| Inflation rate  | 1069     | 0.282       | 1.596            | -0.023      | 19.274      |
| Inflation rate, unwinsorized                            | 1069     | 0.385       | 3.222            | -0.078      | 74.817      |
| Interest rate change                                    | 810      | 0.036       | 7.574            | -34.347     | 33.694      |
| Interest rate change, unwinsorized                      | 810      | 0.151       | 9.100            | -57.534     | 99.800      |
| Left government   | 1069     | 0.335       | 0.472            | 0           | 1           |
| Center government                                       | 1069     | 0.085       | 0.279            | 0           | 1           |
| Right government  | 1069     | 0.285       | 0.452            | 0           | 1           |
| Non-ideological government                              | 1069     | 0.295       | 0.456            | 0           | 1           |
| Rational partisan theory                                | 1069     | 0.001       | 0.159            | -1          | 1           |
| lagged % Urban  | 1069     | 45.694      | 19.344           | 8.541       | 95.045      |
| Legal origin  | 813      | 0.445       | 0.497            | 0           | 1           |
| ln Population density in 1500                           | 813      | 0.482       | 1.562            | -2.211      | 3.219       |

Note: World Development Indicator (WDI) labels and base years for the economic variables are as follows. Private fixed investment growth is from Gross fixed capital formation, private sector (current LCU). Per capita GDP growth is from WDI GDP per capita (constant 2015 US\$). Rate of inflation is based on the WDI Consumer price index (2010=100), and Interest rate change is based on the WDI Real interest rate.

**Appendix Table A3.** Institutional Constraints on the Executive and Electoral Investment Cycles, Control Variable Estimates

|                                | Pooled<br>OLS<br>(1) | Pooled OLS<br>(2) | PCSE<br>(3)      | PCSE<br>(4)     | PCSE<br>(5)     | Two-way<br>Clustered SEs<br>(6) | Driscoll-<br>Kraay<br>(7) | PCSE,<br>Interest Rate<br>(8) |
|--------------------------------|----------------------|-------------------|------------------|-----------------|-----------------|---------------------------------|---------------------------|-------------------------------|
| Left government                | 1.92<br>(2.47)       | 2.27<br>(2.55)    | -0.23<br>(3.94)  | 0.10<br>(3.94)  | -0.36<br>(3.98) | 0.08<br>(3.55)                  | 0.08<br>(4.05)            | -1.21<br>(3.81)               |
| Center government              | 0.51<br>(3.90)       | 0.57<br>(3.88)    | 2.04<br>(5.11)   | 2.57<br>(5.12)  | 1.80<br>(5.12)  | 2.24<br>(4.78)                  | 2.24<br>(4.88)            | -1.01<br>(4.28)               |
| Right government               | -0.38<br>(2.20)      | -0.10<br>(2.19)   | -1.67<br>(3.92)  | -1.35<br>(3.94) | -2.08<br>(3.96) | -1.55<br>(2.61)                 | -1.55<br>(2.37)           | -6.00<br>(4.51)               |
| Rational partisan theory       | -10.37**<br>(4.60)   | -9.94**<br>(4.69) | -8.32<br>(5.87)  | -8.27<br>(5.91) | -8.44<br>(5.85) | -9.12*<br>(4.86)                | -9.12<br>(5.47)           | -4.83<br>(8.35)               |
| lagged $\Delta$ GDP per capita | 14.95<br>(11.86)     | 13.71<br>(11.94)  | 6.39<br>(10.79)  | 6.65<br>(10.81) | 6.79<br>(10.82) | 8.54<br>(9.82)                  | 8.55<br>(9.50)            | 19.31<br>(13.96)              |
| Inflation rate                 | -0.44<br>(0.89)      | -0.45<br>(0.89)   | -0.71*<br>(0.43) | -0.66<br>(0.43) | -0.69<br>(0.43) | -0.73<br>(0.46)                 | -0.73*<br>(0.39)          | 1.12<br>(1.04)                |
| Country FEs                    |                      |                   | ✓                | ✓               | ✓               | ✓                               | ✓                         | ✓                             |
| Year FEs                       |                      |                   | ✓                | ✓               | ✓               | ✓                               | ✓                         | ✓                             |
| N                              | 1069                 | 1069              | 1069             | 1069            | 1069            | 1069                            | 1069                      | 810                           |

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , two-tailed. The dependent variable is Private Fixed Investment Growth. Standard errors are in parentheses. Columns 1 and 2 report Huber-White standard errors. Columns 3, 4, 5, and 8 report panel-corrected standard errors. Column 6 reports multi-way clustering at the country and year level, and Column 7 reports Driscoll-Kraay standard errors. Coefficient estimates for the key independent variables are presented in Table 1.