

The Investment -- Electoral Uncertainty Nexus: Different Sides of Political and Policy Uncertainty

by

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Abstract

This study looks at firms' investment spending in fixed and intangible assets around three types of national elections: presidential, joint presidential and legislative, and parliamentary elections. Results show that firms cut back investment spending in fixed assets by up to 2% during presidential elections, 4.44% in joint presidential and legislative elections, and 4.36% in parliamentary election years. Investments levels shift significantly downward in pre- and resume in postelection years. The electoral effect results in a net loss in investment from pre- to postelection levels. Results are robust to controlling for a number of institutional proxies as well as competitive elections, market friendly incumbents, early elections, and endogeneity of elections. The results have important policy and economic implications.

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1. Introduction

There is a broad consensus in the law and finance literature that changes in a country's national leadership produces political uncertainty. As a result, managers adjust their decision to invest during and around national election years. Political uncertainty is the result of both accidental and scheduled political events, with significant impacts at the firm level (Francis et al., 2014). National elections leading to the renewal of the national leader, the most consequential policymaker, with heightened risk of policy reversals, may cause managers to curtail investment purchases. With looming changes in taxation and regulations, in election years, the policy environment becomes very uncertain. New governments change the rules of the game once in command. Electoral outcomes may elicit strong reactions from financial markets as firms either expand or hold back their investment purchases based upon market's beliefs of how new policies will alter the economic outlook.

Corporate investment opportunities are a set of real options to acquire productive assets (Pawlina and Kort, 2005). Projects can be actively managed in response to the resolution of exogenous uncertainty (Chevalier-Roignant, et al., 2011). Such opportunities can be forgone if they can be deferred; particularly, when the macroeconomic environment is in flux. Waiting, in some instances, may be optimal. Its value depends on the outcome i.e. good or bad news (Bernanke, 1983). Julio and Yook (2012) affirm that firms may delay investment in anticipation of negative changes in taxes, monetary policies, and regulations. Nevertheless, they argue that in some cases the outcome of an election could be construed as good news, regardless of who wins when it leads to the removal of an incompetent or corrupt incumbent. Consequently, firms may view the change in power as good news and may purchase planned investments in the year leading up to the election.

With mandatory investment upgrades, firms' investment decisions depend both on the resolution of electoral uncertainty and on the workings of competitive forces -- the possibility of losing out market share. Timely investment is optimal when the strategic or the operational effect is positive for incumbent firms. Back and Paulsen (2009) contest the theory underlying myopic investment strategies. At some point, to maintain or create value, a firm's investment reaches a certain trigger. Firms can choose the optimal time to invest in an irreversible project whose present value depends on the stochastic market environment (McDonald and Siegel, 1986). Investment decisions in election years must thus weigh in firm's opportunity cost of waiting against plummeting capacity utilization or incremental capacity growths, often concomitant with higher net investment costs over time.

In terms of firms' asset structure, there is a gap in the literature on how the firm allocate investable resources across various types of assets in election years. The classes of assets that are responsive some types of electoral uncertainties have also been overlooked. Perhaps, firm's investment in different asset classes respond differently to political uncertainties induced by (1) presidential elections, (2) legislative elections in a presidential system, and/or (3) parliamentary elections. Relative strengths in types of political regimes may mitigate the amount of policy uncertainty transmitted to the firm in electoral years. With the presidential system providing clearer leadership and predictability, it is assumed that presidential elections communicate lower amount of risk permit firms to better forecast risks (Marcelin and Mathur, 2017).

Firms' assets structure -- or type of endowments -- may drive responses to variations in the macro-economy. In addition to policy uncertainty, managers may adopt a wait-and-see strategy because (1) the economy is either under-stimulated, or (2) pro-investment policies are anticipated. Admittedly, regardless of a firm's resource endowment, some investment may not be

forgone in election years. In fact both firms with higher share of fixed assets to total assets and those endowed with higher ratio of intangible assets (intangible intensive firms) may not bypass timely investment upgrades. Investments may be delayed in the hope of swift resolution of the electoral uncertainty, which may allow costs savings on incumbent generation of technology in favor of the next-generation, but at the expense of operational efficiency, loss of competitiveness, and variances in profitability.

Aggregate measures of the effect of elections on investment, even at the firm level, may result in some entanglements. Incumbent results fail to identify the types of investments, which are more sensitive political instability as well as the types of election producing more uncertainty. In addition, technological upgrades, investment irreversibility, and the replacement of depreciated plants, machinery, and equipment add to firms' constraints in redeploying capital even with expected bad electoral outcomes. As a result, capital intensive firms may be relatively less sensitive to electoral outcomes ex ante. This study examines how firms' investments in different asset classes fluctuate with political uncertainty channeled through national elections.

Strengths in political institutions across countries may, in part, explain how political and electoral uncertainties affect investing in some classes of assets more than in others. There is evidence of large and persistent cross-country differences in economic outcomes due to institutional arrangements, and firms in some institutional environments may to take an extra precaution by securing their assets and realized returns by holding back investible resources when faced with volatile electoral and political environments. Many studies corroborate that an increase in political uncertainty not only depresses investment spending (Feng, 2001; Ghosal and Loungani, 2000) but also amplifies the range of inaction where investment is zero as the firm

prefers to “wait-and-see” rather than undertaking a costly action with unforeseen consequences (Bloom et al., 2007).

This study investigates whether electoral uncertainty influences the timing of investing in certain classes of assets. It differentiates between class of assets to better capture corporate response to electoral uncertainty when exercising the option of investing in fixed assets, new machinery, plants and equipment, and intangible assets. It postulates that exercising this option is affected by firms’ assets structure i.e. capital and intangible intensities. The financial development literature distinguishes between firms with high capital and intangible intensities and their sensitivity to certain types of rights (Claessens and Laeven, 2003; Rajan and Zingales, 1998; Fisman and Love, 2007). Electoral risk along with the likelihood of policy reversal may affect every firm in a given country, but the effect may be conditioned on investment needs.

This study adds to the emerging body of literature on electoral uncertainty and firms’ investment decisions by examining whether firms relying heavily on equipment are more sensitive to electoral shocks than more intangible intensive firms. It shows that firms cut back investment spending in fixed assets by up to 2% during presidential election years and up to 4.44% in joint presidential and legislative elections years; investment in intangible assets are depressed by about 4.36% in parliamentary election years. In addition, there is evidence of shifts in investment before and after national elections. The study helps chart the types of investible assets that respond to electoral uncertainty while identifying the transmission mechanisms linking politics to macroeconomic fluctuations to firm investment strategy. More importantly, it shows managers are more concerned about policy uncertainty when congress and the president are elected concurrently. The results improve upon the incumbent literature by disentangling

investments as well as by showing what types of elections impart more risk into the investment environment.

The remainder of the study proceeds as follows. Section II presents a brief literature review and the theoretical underpinnings of electoral and political uncertainty and firms' investment decisions. Section III provides a description of the data. Section IV discusses the main variables and the methodology implemented. Section V presents the results while section VI concludes.

2. Theory and Related Literature

This paper is related to several strands of literature starting with the election and finance, dominated by Durnev (2012), Julio and Yook (2012) and Pástor and Veronesi (2013) who analyze various features of finance and investment patterns during election years. Also related is the institutions thread of research, the law and finance literature, ushered in by La Porta et al. (1997). Another family of literature draws, in general, on investment under uncertainty. This cohort of work by Nielsen (1976), Bernanke (1983), McDonald and Siegel (1986), Rodrik (1991), and Pindyck and Solimano (1993) investigates the behavior of investment under uncertainty and establishes a link between underinvestment activities and uncertainty. Pastor and Veronesi (2012) and Pantzalis et al. (2000) relate political uncertainty to assets prices.

In particular, Caballero and Pindyck (1996) expound that what matters for investment are the distributions of future values of the marginal profitability of capital; and when these distributions are symmetric and firms are risk neutral, increasing uncertainty will not affect investment. With uncertainty an important determinant of investment spending; the authors argue that changing market conditions that affect the riskiness of future cash flows can have a large

impact on investment spending. This study seeks to fill a gap in the extant literature concerning what types of investment are more sensitive to electoral uncertainty.

Politicians, institutions, and corporate decisions may concomitantly feed investment cycles and thereby business cycles. Firms may react to electoral uncertainty by curtailing investment until the policymaking horizon becomes clearer or more stimulating. While Clark (1979) argue that business investment plays an important role in the determination of current aggregate demand and future growth of real income, Hibbs (1977) and Nordhaus (1975) concur that incumbent governments implement policies that manipulate the economy to improve their reelection chances. Whereas politicians seek to maximize political supports through populist policies, corporate executives seek to mitigate the effects of such policies on shareholders' wealth. Inasmuch as firms' investment decisions can be timed, an investment purchase is a parameter of choice. Depending on their assets structure, firms may have some ability to shift aggregate investment toward their strategic equilibrium. A pull back in investment spending may slow economic activities, depress the labor market, and slow down aggregate demand, which in turn, may have harsh political costs in ways that can force regime changes or provoke policy adjustments.

2.1. Political view of investment

Large amounts of evidence of a negative effect of politicians' actions on firm's investment decisions prevail in the extant literature. Politicians are driven by (1) a desire to be reelected, and (2) political or ideological biases (Alesina et al., 1989). As a result, they often manipulate the macro economy hoping to maximize the likelihood of staying in power. Investment patterns may capture whether incumbents promote expansionary policies by over-stimulating the economy in pre-electoral years even when they have to make difficult

post-electoral policy adjustments. Opportunistic models exploring politicians' office preservation instinct have been introduced by Nordhaus (1975) and Alesina and Roubini (1992) among others. In their rational business cycle models, Rogoff and Siebert (1988) and Rogoff (1990) confirm the findings by Nordhaus that economic agents and voters are endowed with rational expectations. Akhmedov and Zhuravskaya (2004) and Shi and Svensson (2006) highlight that the share of informed voters affects the size of the observed election cycles with this share being a negative function of the incentive to manipulate. Nevertheless, the political business cycle hypothesis (PBC) remains inconclusive in a number of models including Alesina (1987) and Drazen (2000) who conclude that the evidence of electoral cycles in aggregate activity and inflation is weak.

In an earlier study, Cargill and Hutchinson (1991) find that the path of real GNP growth is correlated with the timing of Japanese elections. In related works, Cole (2009) and Khwaja and Mian (2005) affirm that politicians subsidize the private sector to improve their reelection prospects. Implementation of expansionary policies in pre-electoral seasons may result into short-sighted voters rewarding the incumbent government without realizing that a recession will be needed after the election to reduce inflation (Alesina et al., 1989). Bloom et al. (2010) advance that uncertainty makes firms cautious by forcing them to significantly reduce their response to the economy's stimulative policy, leading to pro-cyclical policy multipliers.

With regard to the intersection of firms and politics, Bertrand et al. (2007) document that French firms managed by politically connected CEOs display higher rates of jobs (plants) creation and lower rates of jobs (plants) destruction in election years. Their results are larger for firms in politically competitive areas. They also report that politically connected firms post lower profits compared to unconnected firms, and this lower performance is traced to higher labor

costs. Earlier, Caballero (1999) maintains that aggregate investment is an important variable, and countries and firms are often judged by their performance along this dimension as investment is viewed as providing hope for the future. Firms' anticipation of future of macroeconomic outlook affects their decision to invest before and election years.

2.2. *The effect of elections in presidential and parliamentary regimes on investments*

Electoral risks conveyed by different types of political systems such as presidential, parliamentary, and/or hybrid may be perceived differently by economic agents. Julio and Yook (2012) indicate that presidential and parliamentary types of political systems entail different costs and benefits that are directly related to the degree of political uncertainty in election years. Political scholars including Lijphart (1992), Mainwaring and Shugart (1993) and Linz and Valenzuela (1994) concur that the presidential system of government is less likely than the parliamentary one to sustain stable democracies. However, Mainwaring and Shugart (1993) highlight that with moderately disciplined parties along with congressional elections occurring more frequently than presidential elections, presidentialism has many advantages, which partially mitigate its shortcomings. Shugart and Carey (1992) further stress out that presidential system provides superior accountability, transparency, and leadership than does the parliamentary system.

Whereas Carey and Shugart (1995) and Tsebelis (1995) point to a strong element of zero sum games in presidentialism, which leads to temporal rigidities, majoritarian tendencies, and dual democratic legitimacies; Linz (1994) expounds national elections in parliamentary regimes may result in a larger plurality leading to some negotiations and sharing of power for obtaining majority support for a prime minister or the tolerance of a minority government. The author argues that the political process may become dysfunctional without the possibility of continuous

readjustments as political, social and economic events might require. Bahro et al. (1998) underscore that the dismissal of the government, in parliamentary regimes, is not an indication of the functioning of the regime. Unlike a president, a prime minister in a parliamentary regime is still a member of a larger body wherein such a leader is forced to interact, to some extent, as an equal with other politicians and the leaders of other parties, particularly if s/he depends on their support as head of a coalition government or as a minority government (Linz, 1994).

The power sharing feature of the parliamentary regime may have unpredictable effects. This includes amplified political instability through negotiations to maintain a ruling majority as minority parties and ranked and file lawmakers may pull out their support for the ruling coalition; and/or a much stable policy environment through policy concessions.¹ Absent of major political events, the power-sharing characteristic of the parliamentary regime may make it difficult to establish the direction of causality between electoral uncertainty and variations in capital affectations. Ultimately, the effect of parliamentary elections on firm-level investment purchases remains an inquiry of empirical interest. Presently, the literature has not paid much attention to differences across countries in terms of variations in political regimes, their effect in terms of policy uncertainty and firms' reactions in terms of investment strategies given their asset structure. In fact, political regimes may drive the differences on how firms allocate investable funds when faced with policy or political uncertainties.

Whether firms prefer to invest in fixed assets and a correspondingly lower share of intangible assets in years of presidential elections as opposed to in years of national elections in parliamentary regimes remains an empirical question. This paper explores the role of elections by political regimes (presidential vs. parliamentary) in influencing the allocation of investable

¹ In a true democracy, the executive and the legislative are co-equal branches of power. Although this applies to the parliamentary form of government, the prime minister is a sheer extension of the parliament.

resources (fixed and intangible assets). As a result, this study has dual focus: variations in investment rates by types of assets and by political regimes in years of national elections. The focus on the asset side of the firm's balance sheet allows us to assess how it behaves when faced with various types of electoral uncertainty. Here, the central argument is that regardless of a country's political regime, some investment upgrades may not be delayed, and this is especially true in for investments in tangible assets for firms relying heavily on heavy machinery.

3. Data analysis

This section discusses firm and country level data along with the set of variables on political institutions and their respective source.

3.1. Institutional data

We collect data on political institutions from the World Bank's 2015 Database of Political Institutions (DPI), tabulated by Cruz et al. (2016). Other institutional variables are extracted from the International Country Risk Guide (ICRG). A detailed description of the DPI's variables is available in Cruz et al. (2016). Although the DPI constitutes our main source of political and institutional variables, the international Institute for Democracy and Electoral Assistance (IDEA) database is used to cross-check some of the DPI variables. Particularly, the DPI database provides measures such as checks and balances, types of political regimes (i.e., parliamentary or presidential regime), and incumbent ideology, margin of victory.² The sample covers an average of seven election cycles, providing enough variations to capture the finance effect of electoral uncertainty. The International Country Risk Guide (ICRG) is our source for

² The current DPI version is hosted at the Inter-American Development Bank (IDB) and covers about 180 countries for 40 years, 1975-2015.

countries' level of control of corruption. This index ranges from 0 to 6 with a value of zero indicating the lack of control of corruption in governance practices in the corresponding country.

[Table 1 about here]

3.2. *Country level data*

This study utilizes various sources of country level variables including the World Bank's World Development Indices (WDI) and the International Financial Statistics (IFS) by the International Monetary Fund (IMF) and the ICRG. Data on inflation, budget deficit/surplus, exchange rate variability, per capita GDP, and GDP growth are collected from the ICRG. Table 2 presents some descriptive statistics on the sampled countries. It shows the number of firm-year observations per country, the number of elections, types of political regimes, the resource intensity ratios, and a *GARCH* (1, 1) generated macroeconomic volatility index. The United States and Japan present higher volatilities relative to the remaining countries in our sample. Indonesia also seems to experience high level of volatility, which may have affected macroeconomic results in recent years. Congressional elections in the United States and in Argentina occur every two years. As a result, these countries have the highest number of elections during our study period. We further collect some key information on political systems from Julio and Yook (2012). This set of information is updated using the CIA Factbook and the database on the Quality of Government (QoG). Finally, we derive firms' resource intensities are capital and intangible intensity ratios using balance sheet items such as the ratio of firms' fixed assets to total assets and that of intangible assets to total asset annually.

[Table 2 about here]

3.3. *Micro-level data*

We utilize firms' balance sheet items extracted from the Worldscope database for the period of 1990 to 2011. The data offers significant variability across countries, industries, and firms. The outcome variables are capital expenditures or capital intensity ratio, computed as the ratio of fixed assets to total assets, and intangible intensity ratio, derived as the ratio of intangible assets to total assets. Yearly firm's capital intensity represents a measure of firm's efficiency in asset utilization. It is assumed that capital intensive firms require important operating cash flows as well significant investments in capital stocks to efficiently utilize their production factors. Changes in *CAPEX* represent cash outflow or funds used for additions to the company's property, plant, and equipment. We also compute firms' *Tobin's Q* as the ratio of the total market value of shareholders' equity and book value of their liabilities to book value of their assets. Also, firms' cash flow is derived as the income of a firm after all expenses except provisions for common and or preferred dividends, plus depreciation and amortization, which is the non-cash charges for obsolescence of and wear and tear on the property. The resulting cash flow is deflated by total assets.

Only elections that lead to the election of the head of the state i.e. either the president or the prime minister are considered as national elections. The final sample includes 27 countries with parliamentary form of government, 13 presidential regimes, and 5 hybrid or semi-presidential regimes – where the executive branch is shared between the president and a prime minister. The initial dataset comprised of 33,388 firm-year observations from 55 countries. After applying several filters including a requirement that each sampled country has at least two election cycles, the sampled countries drops from 55 to 45 with a total of 363 elections over 22 years from 1990 through 2011 or an average of 8.07 elections. To deal with extreme values, we

set a threshold whereby outliers are designated as extremes when a firm-year data point is located at the 1% (top or bottom) of our sample distribution using individual firms' z-scores. This results in a final sample of 29,559 observations for 2106 firms from 45 countries.

4. Methodology

To capture the effects of electoral uncertainty on corporate investment, this study augments the strategy implemented in Julio and Yook (2012), but departs from the prevailing literature by differentiating between investment expenditures in fixed assets and in intangible assets in election years. The underlying assumption is that uncertainties imparted by different types of elections are non-uniform across countries and vary with political systems. Inasmuch as the election of a president and that of a prime minister differ markedly, elections within different political systems may be perceived differently by investors. Combining differences in elections, political systems and political institutions across country coupled with variations in firms' asset structure is novel in the corporate investment under uncertainty line of research. Anchored in several studies in the financial development literature,³ the focus on resource endowment highlights how different types of investments respond in reaction to various electoral shocks. Assuming that microeconomic processes respond to policy uncertainty based upon firm's resource needs, this study avoids the notion that all firms respond to the electoral uncertainty in a similar fashion.

4.1. GMM estimator

Designed to capture whether election cycles impact firms with different asset endowments differently, our empirical strategy uses a variant of a dynamic empirical

³ See Claessens and Laeven (2003) and Rajan and Zingales (1998).

specification proposed by Anderson and Hsiao (1982), Holtz et al. (1988), Arellano and Bond (1991), Blundell and Bond (1998) and Baum et al. (2010). The key difference in our approach is the introduction of a set of election-timing dummies, differentiating between types of elections across country and political systems to capture the dynamics of investment behavior over election cycles, in lieu of focusing on a broad election year dummy.⁴ We derive a two-step GMM estimator on a dynamic panel data using moment conditions where lagged levels of dependent and predetermined variables are employed as instruments for the differenced equation.⁵ Using data for an unbalanced panel of 2106 firms from 45 countries, we test a dynamic model of investment rates for three types of national elections -- presidential, joint presidential and legislative, and parliamentary elections. The empirical strategy follows an established pattern consisting of using the standard multivariate investment specification, which controls for firm levels characteristics. The model is outlined as follows.

$$Y_{ijt} = \delta_0 + \delta_1 Y_{ijt-1} + \mathbf{\Gamma}E_{jt} + \mathbf{B}X_{ijt} + \tau VOL_{jt} + v_i + \varepsilon_{ijt},$$

where i , indexes the firm, j the country, and t the year, respectively. The dependent variables, Y_{ijt} , include a set of two firm's investment ratios computed as the growth in capital expenditures measured at the beginning of the year's book value of firms' (1) fixed assets, or (2) intangible assets to total assets at the end of the previous year. More explicitly, the dependent variables are derived as *CAPEX* or firm's aggregate capital expenditures in fixed assets i.e. in equipment, property and plants -- normalized by its previous year total assets; and second, as a firm's intangible intensity ratio, *IIR*, or the value of a firm's intangible assets normalized by its

⁴ Broad election dummy refers to a dichotomy variable whereby there exists no distinction between types of elections (presidential, presidential and legislative, and parliamentary).

⁵ See Blundell and Bond (1998) for a detailed discussion on a system estimator using moment conditions wherein lagged differences instrument the level equation while moment conditions of lagged levels instrument the differenced equation.

previous year total assets. To permit persistence in the behavior of investments i.e. continuity on firm's investment policies during and over the electoral cycle, the lagged of the dependent variables Y_{ijt-1} is included in the model. Firm fixed effects are captured by v_i , and ε_{ijt} represents the error term.

Firm's control variables, in the \mathbf{X} matrix, consist of *Tobin's Q*, operating cash flow, and firm's size. These variables control for firm-specific characteristics that influence firm's investment policies. Controlling for *Tobin's Q* allows to gauge whether firms' with growth potential adopt a wait-and-see strategy over the electoral cycle. Firm's operating cash flow, indicator of financial strength, is deflated by total assets; while firm's total assets, indicator of scale, is normalized by the firm's corresponding country's GDP. Furthermore, we introduce, *VOL*, a *GARCH* (1,1) generated volatility index to control for countries' macroeconomic conditions. Changes in investment rates across asset classes may reflect concerns about macro policy uncertainties due to political business cycles and partisan business cycles induced through budget cycles.⁶ Subsequent variants of the model include some institutional and political measures, interacting with the various election-timing dummies to capture potential differences in firm's investment strategy during the course of the election years.

E_{jt} includes the set of variables of interest or the electoral dummies including presidential, joint presidential and legislative, and parliamentary election indicators.⁷ The first election dummy takes on a value of one if there is a presidential election in country j in year t and 0 elsewhere. The second election dummy equals to one if a legislative election occurs simultaneously with a presidential election in country j in year t and 0 elsewhere. The third

⁶ PBC or political business cycles are comprised of political business cycles induced by political events and partisan business cycles induced by budget cycles or partisan policies after changes in government ideology.

⁷ In a presidential system, legislative elections may be held either in off presidential election years or during presidential election years.

electoral dummy takes on a value of one if there is a parliamentary in country j in year t and 0 elsewhere. Subsequent specifications include pre- and post-election indicators, E_{t-1} and E_{t+1} , varying with each category of election. The coefficients on the electoral variables allows to gauge the effect of election cycles on fixed and intangible investment. The interaction of the election dummies with institutional and political indicators allows us to determine whether elections are shaped by institutions as reflected in the magnitude and significance of these coefficients.

4.2. *Regressions diagnosis*

The *GARCH* (1, 1) volatility index allows us to avoid potential issues of collinearity between the macroeconomic indicators, business cycles, and the election dummies. In addition, in further specifications, we allow for different slopes of electoral dummies over the entire electoral cycle. We estimate the model using the two-step system dynamic panel data (DPD) estimator. The DPD system combines equations in differences of the variables with equations in levels of the variables (Baum et al., 2010). Following Blundell and Bond (1998), we assume that the independent variables are strictly exogenous. Thus, these variables are employed as instruments for the differenced equation. As suggested in Arellano and Bond (1991) and Holtz-Eakin et al. (1988), lags two or higher of *CAPEX* and *IIR* are used to create *GMM* – *type* instruments for the differenced equation, and the first difference of each of the predetermined variables is also employed as standard instruments for the differenced equation. Lagging the level equation two periods or higher constantly affirms the validity of the instruments set. Econometrically, the viability of our modeling approach depends upon the validity of the instruments, which can be assessed with the Sargan’s test of overidentifying restrictions. Rejection of the null hypothesis that the instruments are asymptotically distributed

and that they are unrelated to the errors would suggest inconsistent estimate. In addition, tests for the first- and second-order serial correlation in the error process are critical in evaluating the DPD system. Baum et al. (2010) affirm that when the instruments are appropriately uncorrelated with the errors, there should be no second-order serial correlation: the Arellano-Bond $AR(2)$ test should be insignificant.

4.3. *Measuring macroeconomic volatility*

Whereas our setting takes into account macroeconomic factors likely to affect firm's decision to invest, single factors may provide limited information pertaining to changes in investment rates associated with political and budget cycles. To measure macroeconomic uncertainty, this study utilizes the generalized autoregressive conditional heteroscedasticity $GARCH(1, 1)$ ⁸ model to build a macroeconomic volatility index. The index involves individual volatilities of inflation, real exchange rate, and GDP growth. These indexes may supply enough variations to reasonably derive a proxy for macroeconomic uncertainty. In the $GARCH(1, 1)$ process, the conditional variance of a time series depends upon the squared residuals of the process (Bollerslev, 1986). Allowing time dependence of the second moment of a random variable, the $GARCH$ -type modeling of volatility, theoretically, offers a more precise measure of uncertainty, resulting from a linear combination of the estimated volatilities of the individual series. Although there might be relevant factors overlooked by the index, the index is a major improvement over relying on variations of the individual variables in the regressions.

Standardized using the individual series' means and standard deviations and each of the uncertainty component's weight, the volatility index exploits the volatility inherent in these

⁸ See Bollerslev et al. (1992) who argue that, in general, a macroeconomic variable, y_t , can be modeled as $GARCH(p, q)$, using, μ_t , the mean of y_t ; the conditional on the information set Ω_{t-1} ; and the conditional variance, $h_t > 0$, requiring that $\sigma > 0, \beta \geq 0$ and $\alpha_j \geq 0$.

macro variables as prime contributor to fluctuations in investments. Higher inflation, lower GDP growth, higher volatilities in the exchange rate have been attributed to anemic investment expenditures.

5. Results

In this section, we present the results of patterns of two types of investment spending around national elections: Presidential, and joint presidential and legislative, and parliamentary elections. The central inquiry assesses how the rates of investment in fixed and in intangible capital are affected by these three types of elections. The present investigation into investment behavior over election cycles uses a large panel of 2106 firms from 45 countries over the period of 1990-2011. While there have been a great deal of research on investment under uncertainty, the literature on investment around election cycles has mainly focused on tangible investments. Incumbent results are at odds with findings in the present study, in part, due (1) to treatments of electoral uncertainty, and (2) the aggregation of investment expenditures. It should be noted that, throughout the results' discussion, for all models, the Sargan's test fails to reject the null hypothesis that the overidentifying restrictions are valid, implying that the instruments are correctly unrelated to the error; and further, the Arellano-Bond $AR(2)$ tests are statistically insignificant, implying that no second-order serial correlation is detected in the error process.

Using a split sample -- countries with a presidential and those with a parliamentary system of government are analyzed separately⁹ -- the regressions, throughout the tables, in the first three columns, report results for *CAPEX*, capital expenditures; the subsequent three columns provide regression results for intangible to total assets or intangible intensity ratio, *IIR*,

⁹ No further comments on this aspect of the estimates are made.

as dependent variable.¹⁰ Consistent with the main hypotheses, Table 3 shows that investments patterns differ over various types of election and assets. As depicted in several columns (1) and (4) of Table 3, there is a statistically insignificant relationship between standalone presidential elections and firm's investments in capital expenditures in election years. In contrast, the relationship is reversed when considering the joint occurrence of presidential and legislative elections as well as in parliamentary election years.

[Table 3 about here]

It is noteworthy highlighting that the set of control variables includes firm's characteristics such as *TOBIN's Q*, *Operating Cash Flow/TA*, and *Size* as well as a macroeconomic volatility index. When significant, these explanatory variables have their expected signs. Overall, they suggest that firms with higher Q and higher level of operating cash flows exercise their real option regardless the type of election. Larger firms and firms with higher operating cash flow, on average, have higher investment expenditure. All of the regressions include a time index, thus allowing us to control for time-invariant differences between firms across countries. Consequently, differences related to electoral dummies may be attributed to wide-ranging differences between firms' managerial decisions or investment objectives.

The decline in firm's conditional *CAPEX* ranges from 43 basis points to 2% depending on whether the election is held in countries with a parliamentary system or a jointly held presidential and legislative election. The coefficient estimate in column (5) of Table 3, implies that the average firm curtails intangible investment expenditures by a whopping 4.36% in years of joint presidential and legislative elections. After controlling for firm's characteristics

¹⁰ This pattern is repeated across all of the tables including those involving more than six columns.

including operating cash flow, investment opportunities, *Tobin's Q*, size or scale, and macroeconomic conditions -- *VOLATILITY Index*, the results in Table 3 indicate that firms curtail investment operations significantly in years of national elections. We note significantly lower *CAPEX* in years of joint presidential and congressional elections. The joint presidential and congressional election effect is stronger for firms with higher weights of intangibles in their asset structure.

Whereas Julio and Yook (2012) argue that presidential systems are thought to be characterized by a high degree of checks and balances, which tend to minimize policy swings and act as a constraint in passing new laws and regulations, our results suggest that to the extent that presidential systems minimize radical policy changes, the electoral effect is weaker during standalone presidential election years as opposed to joint presidential and legislative elections as well as parliamentary elections years. Inasmuch as during years of general elections in either system, the entire executive suite is up for grab, this produces more uncertainty at the executive and legislative branches, and by extension higher levels of policy uncertainty. In this regard, joint presidential and legislative elections and parliamentary elections may be viewed as equally risky. Nevertheless, these two types of elections should channel lower amounts of risk to firms, due, in part, to policy concessions, which must be exacted from congress for the president to govern as well as for the prime minister to assemble a cabinet. Institutional arrangements that insulate economic policy from the direct control of elected politicians reinforce policy stability and reassure market players that existing policies will not drastically change in the event of a partisan shift in the composition of the government (Berleermann and Markwardt, 2003).

Our estimate that firms curtail their investment purchase an average by 2% in years of joint occurrence of presidential and legislative elections; and by 4.36% in intangible purchases

compares with the reduction in corporate investment around election cycles of 4.8% reported by Julio and Yook (2012), and 5% by Jens (2017), but stands well below the 15% decline of Jens (2017). In a related study, Julio and Yook (2016) report a decline of 13.2% in cross border FDI flows in the quarter leading up to a national election. Other studies hypothesize that a rise in political uncertainty leads to decreased firm's investments (Pástor and Veronesi, 2012, 2013; Kelly et al., 2016); and a downward adjustment of shareholders' expectations on firms' value since the political environment will affect cash flows (Pástor and Veronesi, 2013).

The results that firms cut back investments in elections years contrast sharply with Dinç (2005) highlighting that bank lending increases by about 11% during election years as well as with Baum et al. (2010) who find no relationship between bank lending and parliamentary elections using a sample a Turkish banks. Our finding suggests that the real effect of political uncertainty on firm-level investment is stronger depending upon the conduit of political or policy uncertainty as well as upon the nature of the investment to be undertaken. The overreliance on aggregate investment timing option overlooks three types of elections and the flexibility option -- a predominant feature of some types of asset endowment, which may impact the behavior of the firm when faced with increased uncertainty on certain classes of investments. In the end, research may take into account (1) the nature of investment, and (2) the proxy measures of political uncertainty.

Reduced likelihood of policy swings or dramatic policy reversals in parliamentary systems and in years of joint presidential and legislative elections should instill less fear among investors. Although Gerring et al. (2008) advance that parliamentarism is associated with flexible policy making, investment rating, low import duties, greater trade openness and higher level of per capita GDP compared to presidentialism; to some extent, contrary to the parliamentary

regime, in a presidential regime, with significant powers invested in the president, a divided government, perhaps, may lead to political gridlocks, or policy paralysis or forced compromise for the government to function. In many countries, the president is bestowed the constitutional authority to dissolve the parliament on issues of national interest to resolve political obstruction or policy paralysis. In comparison, when a prime minister dissolves the parliament, s/he has, consequently, relinquished the premiership. Perhaps, in the event of high regulatory burdens, the prospect of policy inaction or paralysis may boost the value of deferring the exercise of an option. In the short term, deferring investment may be optimal, thus resulting in negative investment-uncertainty feedbacks.

5.1. Elections and investment across institutional settings

With respect to political uncertainty, firms' expectations about the economy may be influenced by the quality of a country's institutions. Political uncertainty results from both accidental and scheduled political events with significant impacts at the firm level (Francis et al., 2014). Risk forecasts may be more accurate where the institutions and the laws work in ways that allow (1) arrangements for peaceful transfer of power, thereby (2) political stability, and clearer leadership following national elections. The effect of electoral shocks can be magnified or moderated as a result of a country's institutions as substandard institutional arrangements may feed political uncertainty. Elections may trigger higher volatility in countries with poor institutions. To investigate whether institutions mitigate the effect of elections on firms' capital spending, we collect data on control of corruption, checks-and-balances, and government stability for the sampled countries from the ICRG and the DPI database, respectively.

[Table 4 about here]

The partition of our data into presidential system and parliamentary system obviates the necessity of controlling for legal origin. With the exception of the United States and South Korea, in our sample, every country with a presidential system is of the French civil law legal family; and the countries with a parliamentary system are preponderantly of Common law legal family with the exception of the Scandinavian countries such as Denmark, Finland, Norway, and Sweden.¹¹ The control of corruption indicator is scaled such that a country with a higher score on the index displays greater control of corruption. In the law and finance literature, this is interpreted as a country featuring better political institutions (La Porta et al., 1997; 1998), more conducive to investment and growth (Marcelin and Mathur, 2015). In addition, checks-and-balances ensures stability of policy making preventing either the executive or the legislative branch from introducing extreme laws or policies as the likelihood such bills of being enacted remains low. Thus, robust checks-and-balances should prevent pendulum swings in enacting new laws and regulations as the government branches keep each other under control.

Firms in countries with a long history of institutional stability should be less concerned with drastic changes in policies. La Porta et al. (1997; 1998) establish that the strength and the quality of the legal system have a positive effect on growth. They show that common law countries have better law enforcement mechanisms with positive impacts on investors' protection, minority rights, and transition of power resulting in superior economic outcomes. Table 4 shows that investment declines 1.63% during presidential election years and up to 4.4% during joint presidential and legislative election years controlling for institutional and firm's characteristics. The coefficients on the institutional indicators display they expected sign -- a

¹¹ Econometrically, this lack of variation in country legal heritage in the split sample does not warrant a statistical inquiry.

positive effect on investment flows. Overall results in Table 4 shows a positive effect of firm's spending on capital stocks and on intangible assets associated with better institutions. The quality of a country's institutions indicates how power is exercised and whether there may be a breakdown following a national election. Through the interaction terms, we seek to capture the differential effects of country institutional characteristics on firms' investment patterns in election years. Table 4 reports the results of the effects of country institutional features and electoral uncertainty on investment. Each of the firm control variables is interacted with countries' institutional indicators.

The sign of the interaction term, *presidential election* \times *control of corruption*, is statistically significant at the 10% level for *CAPEX*. The interaction term between *parliamentary election and control of corruption* is positive and significant at least at the 5% level. This suggests that cleaner countries in terms of control of corruption exhibit lower amount of political uncertainty. The coefficient on checks-and-balances is positive and significant at the 1% level both for *CAPEX* and *IIR*. This suggests that in countries with effective checks-and-balances, firms tend expand their capital expenditures significantly, yet the expansion is muted by the electoral uncertainty. In other words, countries with poor institutions and recurrent elections may be missing out in terms of investments and growth. Short-lived governments or non-stable governments amplify policy uncertainty while depressing investments and growth. Chauvet and Collier (2009) maintain that broken elections lead to policy paralysis, increase in cabinet posts, and loss of policy coherence. Effective control of corruption is a yardstick of the quality of a country's policymaking and institutional framework preventing elected officials from extracting financial gains from firms in return of favorable policies. In terms of policy implications, a one standard deviation increase in control of corruption index is

associated with 27 basis points increase in investment in *CAPEX* per year while IIR would expand by roughly 20 basis points per year. In sum, investors require clear leadership in the policymaking environment before committing investible funds to long term projects.

5.2. Investment around elections: Pre- and post-election seasons

To further our inquiry into how elections affect the allocation of investable funds by firms across different asset classes, we also consider the possibility that firms may be able to delay some of their previously planned investments when faced with an uncertain policymaking environment and exercise their option in the post-election period. In this regard, corporate investment in certain assets may slump before a national election and resume after the election; presumably, when the electoral uncertainty is dissipated. Although it is plausible to delay some investment expenditures with anticipated changes in the tax and regulatory environments, other investment purchases may turn out to be time sensitive to maintaining a smooth operating process. Canes-Wrone and Park (2010) advance that when polarization is higher, the incentive to avoid investment in the pre-election period is greater. Whether firms pull back or accelerate investment purchases across asset classes prior to a national election and resume investment spending after the election remains an empirical inquiry of great importance. More importantly, what types of assets purchases remain more sensitive to electoral uncertainties?

[Table 5 about here]

Investigating the patterns of investments before and after national elections may provide additional information on firms' investment decisions over the electoral cycle. Table 5 repeats the main regressions controlling for the year leading up to a national election and the immediate year thereafter using a linear combination of the election dummies. Particularly, the coefficients

pre- and post-election years are assumed to sum up to zero if firms reduce investment purchases in pre-election years and resume investing in the year following the national election. The estimation results for investment around elections are reported in Table 5. Although weaker for presidential elections, the coefficient remain consistent to controlling for pre- and post-election years. The coefficients for pre- and post-election years are statically significant at least at the 5% level. In particular, investment expenditures declines significantly in the pre-election year while recovering significantly in the postelection year. The decline in the pre-election largely surpasses the postelection recovery. This suggests a net negative effect of elections on investments. Using a linear combination of the pre- and post-coefficient estimates, we find a net decrease of 3.03% in capital expenditures associated with national elections. Nonetheless, Canes-Wrone and Park (2010) surmise that businesses and households have strong incentives to postpone investments with high costs of reversal in the period immediately before an election because of the associated political uncertainty. The results, with the inclusion or the exclusion of the actual electoral year dummies, compare with Dinç (2005) who finds no significant increase in lending and Julio and Yook (2012) who document no significant increase in investments in post-election years. It seems that the effect of electoral uncertainty has dissipated in post-electoral years, and this has a positive and significant impact on corporate investment policy.

Interestingly, the table shows that resource endowments affect firm's decision to purchase investments in pre- national elections years, and that, investments both class of assets slump during those years with intangible asset purchases declining much rapidly. While capital expenditures decline in presidential elections, such expenses are consistently lower when the election of the president and that of the legislature coincide. The effect of national elections manifests itself over the election cycle. Decreased corporate investments across asset types

during national election years is an important result given that some planned investments in capital intensive firms may be irreversible for firms to either maintain an orderly operating process or a competitive edge. Bernanke (1983) and Caballero and Pindyck (1996) concur that individual projects may be irreversible and that agents must take investment timing decisions that trade off the extra returns from early commitments against the benefit of increased information gained by waiting.

It follows that, anticipating bad information about policy changes, firms reduce their investment in capital stocks over the election cycle, for they cannot disinvest if market conditions unexpectedly worsen due political gridlock or unfavorable policy concessions. Nevertheless, when investments are crucial to keeping up with technological trends and operating constraints, upgrading capital stocks may be compulsory. Thus, the firm may have to cope with policy or regulatory changes. Bernanke (1983) argues that investors do not have a firm expectation of when or in what form capital spending will revive, nor do they move up future projects to take advantage of lower cost of capital and shorter delivery lags.

5.3. Robustness tests: Month-of-the-year-effect of elections on investments

The timing of elections is an important feature in assessing the effect of election on election year's investment rates. The standard practice in the extant literature is that if these elections occur in the first four months of the fiscal year, the preceding year is recognized as the election year. Thus, if the election is held during the first quarter of the year, corporate investments might have already been adjusted to account for possible policy uncertainty well in the preceding fiscal year. Dinç (2005) and Jakowicz et al. (2013) concur that if an election takes place early in the year, its effects on bank lending activities could have occurred in the previous calendar year. Accordingly, we investigate the possibility of the month-of-the-year effect of

election on investment across asset classes. We proceed by setting two time periods in the calendar year as follows. We set a dichotomy variable equals to one if the election occurs between January and April -- the March-April electoral dummy -- and zero otherwise. We also set another categorical variable equals to one if the election occurs between the months of May and December -- the June-July electoral dummy -- and zero elsewhere. Table 6 presents the results for the month-of-the-year-effect of elections on investment.

[Table 6 about here]

In table 6, the March-April electoral dummy is negative and statistically insignificant at the 5% for intangible investments but statistically indistinguishable from zero for *CAPEX*, which declines significantly when the is held in the June-July calendar year. There is a slight increase in *CAPEX* in the June-July calendar year in parliamentary countries, but this uptick is muted by the strong downturn in investments during those years. We perform a test of linear combination of the coefficients of June-July and held presidential and legislative elections. We test the hypothesis that the coefficient of presidential elections and June-July elections sum up to zero. This would imply that investments in *CAPEX* do not vary with presidential elections regardless whether the election has taken place mid-year or after. The coefficient estimates exhibited in column (2) of Table 6 require that reject the null hypothesis that decline in investment in joint presidential election years is not magnified when the election is held within the June-July calendar year. More importantly, we test whether the upturn in June-July is not offset by decreases induced by month-of-the-year-effect when the election held in June-July or later for parliamentary elections. The estimate of the combination of presidential and June-July election timing is -0.0013 with a t-statistic, $t = -2.07$. The magnitude of investment reallocation is about 1.41%, which is substantially large depending on the size of the economy.

As in previous tables, investment expenses on *CAPEX* decrease with parliamentary elections. We fail to reject the null hypothesis of investment reallocation when these election take place early in the year or later.

5.4. Robustness tests: Fixed election dates

The ability of incumbents to call an early election to benefit from favorable political conditions, if unaccounted for, may potentially distort the estimates of the effect of electoral uncertainty on firms' investment decisions.¹² In many systems, incumbents cannot exercise such powers with the election date either enshrined in the constitution or firmly fixed by electoral law; which, in part, may lessen the amount of political uncertainty transmitted to firms. Political theorists and economists alike including Ito (1990), Chowdhury (1993), Smith (1996, 2003) and Julio and Yook (2012) investigate the impact of endogenous election timing. In particular, Julio and Yook (2012) find evidence consistent with the view that governments opportunistically time elections if they have the option to do so. Table 7 exhibits the results for countries with exogenous and those with endogenous election timing with constitutionally fixed electoral date countries considered as having exogenous election dates while those where the executive branch can call an early election to resolve a policy matter considered as having endogenous election dates. While the fixed election date dummy is negative and significant, at least at the 5% level, for three of the regressions exhibited in Table 7, the main electoral dummy remains consistent with results reported in earlier tables. In fact, the estimates appear to be stronger for endogenous election dates. In either group of countries, the estimates remain qualitatively the same as earlier

¹² On April 19 2017, British prime minister Theresa May, calls an early general election, three years before the scheduled election. The election is called 12 months after the British people decided to quit the European Union. Many believe that the prime minister was unable to resist taking advantage of very strong support in opinion polls for the Tories (see NYT: <https://www.nytimes.com/2017/04/19/world/europe/uk-general-election.html?mwrsm=amp-email>). The general election is called as YouGov reports that the Conservative Party leading the Labour Party by a roughly 2-1 – 48% to 25% margin (see: <http://ukpollingreport.co.uk/>).

reported. The results do not point to any opportunistically timing of elections affecting investments in an unexpected fashion. As in Julio and Yook (2012), it seems unlikely that the results are driven the endogeneity of election timing whether investment is measured as *CAPEX* or intangible intensity ratio, *IIR*, across the forty-five sampled countries.

[Table 7 about here]

Furthermore, Table 7 presents the results controlling for the predictability of electoral outcome. In these regressions, we test the hypothesis that anticipations on the election outcome have no effect on investments reallocation across asset classes. We model election closeness and/or predictability by setting close elections as a dichotomy variable that takes on a value of one if the vote difference of the total votes collected by the winner of a presidential election and the score of the runner-up is less than 25%, and zero otherwise.¹³ The results show that the higher the margin of victory of the victor of the electoral contest, at least, for intangible investments, the higher the increase in this class of assets. Importantly, the results of the effect of elections on investments remain qualitatively unchanged for either type of election except that in fiercely contested elections in parliamentary system.

5.5. Additional robustness tests

Table 8 exhibits the results for additional robustness checks of the effect of electoral uncertainty on investment. In this table, the regressions control for firms operating in politically sensitive industries such as defense, tobacco, natural gas, pharmaceuticals, petroleum, telecommunications, healthcare, and transportation. The estimates are robust to controlling for politically sensitive industries for presidential, legislative and parliamentary elections. Further, we control for market-friendly incumbent where we assume that the more conservative the

¹³ We model close election in the same way as it codified in Julio and Yook (2012).

incumbent, the more market friendly. Two sets of results are in order including (1) a positive and significant effect of market friendly incumbents on *CAPEX*, and (2) a negative and significant effect of market friendly incumbents on *IIR*. The diverging effect of incumbents' ideology on types of investment spending is puzzling. Although the positive effect remains quantitatively small, it is, nonetheless, quite large for *IIR*.¹⁴ Nevertheless, the interaction between market friendly incumbent and national elections remains negative in significant at the 5% level for presidential elections and positive and significant at least at the 5%. A linear combination of the coefficients confirms that investment rates tends to decline significantly when the incumbent is of leftwing persuasion.

[Table 8 about here]

We finally proceed by executing a number of regressions by controlling for financial crises by controlling for countries' legal origin with French civil law countries assigned a dummy equals to one and zero for common law countries. The results remain consistent with those reported in earlier table. We also include a geographic dummy as countries sharing a border or global trade organizations, same language or former colonizers may present some similarities in terms of elections, institutions and culture. The results remain qualitatively similar to those reported in earlier tables.¹⁵

Overall, the results show communalities between presidential and parliamentary systems in terms of electoral uncertainty as investments decline with both types of elections. Nevertheless, joint presidential elections and parliamentary are perceived to be equally risky, due in part, to (1) the power vacuum at the entire executive suite, and (2) the policy concessions

¹⁴ Faccio (2006) and Julio and Yook (2012) finds that only 3% of firms representing about 8% of the world's market capitalization have political connections and these factor is not driving the effects of elections on investment using international data.

¹⁵ Results for these tests are available upon request.

needed to form a governing coalition in the parliamentary system. In both political regimes, when the entire executive suite is being renewed, the governing coalition cannot function as a coordination device without reconciling diverging interests between individual congress persons' or groups' and those of the winning party.

6. Conclusion

This study looks at investment sensitivity to electoral uncertainty from 1990 through 2011 using a sample of 2106 firms from 45 countries. It expands the literature by recording the effects of various types of elections on different asset classes. It shows that elections, regardless of which type, cause investments to be adjusted downward. Nevertheless, joint presidential and legislative elections have a similar adverse effect on investment as parliamentary elections in terms of the magnitude of the effect. The data also shows that firms curtail their investment spending in the year leading up to an election and resume investing in the year following a national election. The results suggest that management is more likely to adopt a wait-and-see strategy when faced with electoral uncertainties induced by a general election.

Whereas firms cut back investment spending in fixed assets by about 1.63% during presidential election years and up to 4.44% in joint presidential and legislative elections years; investment in intangible assets are depressed by about 4.36% in parliamentary election years. The results compare well with Julio and Yook (2012) who find that investment rates decrease by as much as 4.8% in years of presidential elections. The results point to a reality whereby corporate management becomes more concerned with uncertainty induced by joint presidential and legislative elections and parliamentary elections. The results are an indication of the fear of policy changes that comes with executive changes, and also a suggestion that markets do not discard electoral uncertainties.

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Table 1
Variable descriptions

This table describes the variables used in our study. The first column provides the names of the variables as utilized in the various regressions. The second column describes the variables the way they are constructed, and their sources.

Variable	Description
<i>Firm Level Data: Source, Worldscope</i>	
Sales	Firm's growth rate in total sales. In the Worldscope, a firm's sales include revenues that expected for over the life of the company; other operating revenues and installment sales; in some cases, sales comprise other items such as franchise sales
Tobin's Q	Firms' Tobin's Q over the period 1990-2011. Tobin's Q is the sum of the market value of equity and the book value of liabilities over the book value of total assets for given firm in a particular year
Investment Intensity ratio	Investment intensity ratio or firms' growth opportunity is calculated as Capital Expenditures divided by book value of total assets
Intangible-to-fixed assets	Ratio of intangible assets to net fixed assets. Intangibles represent the net value of intangible assets. These assets that have no physical existence in themselves but represent rights to enjoy some privilege. They includes: blueprints or building designs, patents, copyrights, trademarks, franchises, organizational costs, client lists, computer software patent costs, licenses, and goodwill (except on unconsolidated subsidiaries). Intangibles exclude goodwill on unconsolidated subsidiaries, which are included in Investments and Advances under the Equity Method. Net fixed assets is as reported in Worldscope and represents net property, plant and equipment, which equals gross property, plant and equipment minus accumulated depreciation, depletion and amortization
Size	Natural logarithm of the book value of total assets
Real capital expenditures	Inflation-adjusted capital expenditures: natural logarithm of capital expenditures deflated by the rate of inflation
Sensitive industry	A dummy variable set to one if the firm belongs to a politically sensitive industry, and zero otherwise. Our classification of sensitive industry are based on Julio and Yook (2012) and encompasses tobacco products, pharmaceuticals, health care services, defense, petroleum and natural gas, telecommunications, and transportation
External finance dependence	Is defined as a firm's capital intensity ratio calculated as the inverse of a firm's asset turnover ratio or net sales divided by the average of the previous and the current year total assets, which include current plus net property, plants, and equipment along with other intangible assets
<i>Country Level and Institutional Characteristics: Source, International Country Risk Guide (ICRG)</i>	
Government Stability	An index that assigns values ranging from 1 to 12, where lower values indicate less stable countries
Democratic Accountability	An index that assigns values ranging from 1 to 6, where lower values indicate lack of accountability of elected officials before their constituents
Law and Order	An index that assigns values ranging from 1 to 6, where lower values indicate lack of basic rule of law
<i>Electoral and Institutional Characteristics: Source, Database of Political Institutions (DPI)</i>	
Presidential System	Dummy variable that takes on a value of one for presidential system if (1) the president has a veto power that can only be overruled by a supermajority in the parliament; (2) the president can appoint and dismiss the prime minister, and (3) can dissolve the parliament and call for new elections
Presidential Election	A dummy variable that takes on a value of one if a presidential election occurred during a particular firm year.
Legislative Election	A dummy variable that takes on a value of one if a legislative election to elect a new Congress occurred during a particular firm year

Table 1: Continued

Pre-Election Year	A dummy variable that takes on a value of one for the firm year preceding the year of a presidential election
Post-Election Year	A dummy variable that takes on a value of one for the firm year preceding the year of a presidential election
Checks and Balances	The number of veto players that have to cooperate for policy changes to occur in a political system
<i>Country Level: Source, The International Country Risk Guide (ICRG)</i>	
Budget deficit/surplus	Central government revenue less public expenditures in percentage. A positive value represents a surplus while a negative one represent a deficit
Inflation	Growth in the Consumer Price Index
Exchange rate stability	Variations in the exchange rate of a country's domestic currency against the U.S. dollar from its previous year's value
Per capita GDP	Per capita Gross Domestic Product in USD
GDP Growth	Growth in Gross Domestic Product
<i>Other Variables and their Sources</i>	
Presidential Runoff	Dummy variable that takes a value of 1 if there is a presidential runoff that a successful candidate must win with an absolute or qualified majority of the votes to become the president. Source: http://homepages.nyu.edu/~mrg217/elections.html
Market-friendly incumbents	A dummy variable that takes on a value of one if the incumbent government during the election year is right-leaning or centrist, and zero if left-leaning. Source: DPI.
Close-election	A dummy variable that takes on a value of one if the vote difference of the votes collected by the winner and those received by the runner-up is less than 25%, and zero otherwise. Source: DPI.

Table 2
Descriptive statistics

This table presents some descriptive statistics on the sampled countries and corresponding reporting firms. The number of elections includes the three types of elections presidential, parliamentary, and simultaneous legislative and presidential elections. Number of observations refers to firm-year data spanning over thirty five industries from forty-five countries over the time period between 1990 and 2011. Source of executive power is extracted from Julio and Yook (2012) and the CIA Factbook. Electoral data are obtained from the Database on Political Institutions. $CAPEX = \text{Fixed assets}/\text{Total assets}$, and $\text{Intangible intensity ratio} = \text{intangible assets}/\text{Total assets}$ or IIR as dependent variables. Tobin's Q is calculated as a firm's $(MVE + BVL)/BVA$, where MVE is the market value of equity, BVL is the book value of liabilities, and BVA is the book value of assets; firm's size, is the natural log of firm's total assets; $\text{Operating cash flow}/\text{total asset}$ is a firm's operating cash flows deflated by its total assets in year t . Firm level data are extracted from the Worldscope database. Macroeconomic uncertainty is a $GARCH(1,1)$ volatility index involving series such as changes in exchange rate, inflation, budget deficit/surplus, and growth rate extracted from the International Country Risk Guide (ICRG) database.

Country	# obs.	Source of Exec. Power	# of elections	CAPEX	IIR	Tobin's Q	Firm's size	Operating cash flow	Macroeconomic uncertainty
Argentina	135	Presidential	16	0.69	0.05	0.90	7.33	0.13	-0.19
Australia	427	Parliamentary	8	0.57	0.10	0.62	6.47	0.06	1.16
Austria	67	Parliamentary	8	0.57	0.05	0.72	6.46	0.05	-0.54
Belgium	182	Parliamentary	6	0.55	0.06	0.72	7.28	0.04	-0.58
Brazil	491	Presidential	10	0.54	0.06	1.52	6.84	0.07	-0.39
Canada	2032	Parliamentary	7	0.59	0.09	-1.76	6.05	-0.02	0.31
Chile	198	Presidential	10	0.73	0.03	0.91	6.55	1.18	-0.01
Colombia	20	Presidential	13	0.84	0.02	0.50	7.31	0.03	-0.08
Czech Republic	52	Parliamentary	7	0.54	0.05	3.30	6.37	0.20	0.37
Denmark	31	Parliamentary	8	0.56	0.14	1.20	7.05	0.11	-0.70
Egypt	52	Presidential	8	0.63	0.06	0.83	7.05	0.08	-0.76
Finland	170	Hybrid	9	0.49	0.14	0.77	6.88	0.03	0.13
France	779	Hybrid	7	0.37	0.16	0.81	6.88	0.06	-0.12
Germany	1033	Parliamentary	6	0.50	0.08	0.91	6.92	0.07	-0.04
Greece	161	Parliamentary	7	0.56	0.02	0.79	6.02	0.07	0.41
India	500	Parliamentary	5	0.56	0.02	0.79	5.88	0.06	0.15
Indonesia	423	Presidential	7	0.66	0.02	1.95	5.91	0.11	0.31
Ireland	44	Parliamentary	6	0.55	0.06	0.72	6.28	0.06	-0.06
Israel	175	Parliamentary	9	0.46	0.12	0.64	6.67	0.05	0.28
Italy	383	Parliamentary	6	0.37	0.17	3.04	6.54	0.04	-0.23
Japan	4709	Parliamentary	8	0.56	0.01	0.97	6.69	0.06	-0.04
Malaysia	585	Parliamentary	5	0.51	0.04	1.04	5.35	0.04	0.47
Mexico	164	Presidential	12	0.60	0.06	0.99	8.09	0.08	0.38
Netherlands	115	Parliamentary	7	0.53	0.05	0.69	6.42	0.09	-0.08
New Zealand	67	Parliamentary	9	0.59	0.06	1.16	6.75	0.05	0.01
Nigeria	14	Presidential	8	0.66	0.00	1.25	5.97	0.09	0.75
Norway	140	Parliamentary	5	0.34	0.14	1.10	5.83	0.10	0.45
Pakistan	95	Parliamentary	5	0.58	0.01	0.78	5.26	0.10	0.58
Panama	6	Presidential	8	0.85	0.02	0.74	8.08	0.07	-0.91
Peru	90	Presidential	12	0.75	0.05	1.11	5.94	0.09	-0.29
Philippines	107	Presidential	11	0.71	0.03	0.48	5.43	-0.07	0.41
Poland	260	Hybrid	12	0.45	0.06	1.02	5.43	0.07	-0.11
Portugal	23	Parliamentary	10	0.60	0.07	3.59	5.83	0.03	-0.14
Russia	40	Hybrid	9	0.65	0.03	1.11	7.40	0.08	0.93
Singapore	362	Parliamentary	6	0.51	0.03	0.87	5.65	0.03	0.37
South Africa	36	Parliamentary	4	0.82	0.02	0.74	8.71	0.09	-0.39
South Korea	1264	Hybrid	9	0.53	0.02	1.16	6.32	0.08	0.23
Spain	249	Parliamentary	6	0.52	0.09	0.80	7.16	0.06	-0.06
Sri Lanka	26	Presidential	8	0.70	0.03	1.09	4.79	0.10	-0.27
Sweden	309	Parliamentary	6	0.42	0.15	0.96	6.67	0.06	-0.25
Switzerland	248	Parliamentary	6	0.54	0.09	0.91	6.62	0.07	0.04
Thailand	201	Parliamentary	7	0.62	0.01	0.78	6.09	0.09	0.04
Turkey	191	Parliamentary	6	0.68	0.02	0.69	5.76	0.06	0.62
United Kingdom	2371	Parliamentary	5	0.48	0.13	1.19	6.82	0.10	0.04
United States	10532	Presidential	16	0.52	0.12	0.82	6.79	0.08	-0.12

Table 3
Regressions for firms' investment during national elections cycles.

This table presents the results of firms' investment patterns in years of national elections during the period between 1990 and 2011. The first three specifications present baseline regressions of the effect of elections on rates of firms' investment in capital goods, defined as growth in *CAPEX*, calculated as $(Fixed\ assets_t - Fixed\ assets_{t-1}) / Total\ assets_{t-1}$, with fixed assets net of intangible and current assets. Likewise, specifications four through six use intangible intensity ratio, *IIR*, the ratio of $(Intangible\ assets_t - Intangible\ assets_{t-1}) / Total\ assets_{t-1}$ as dependent variables. We use GMM dynamic panel data techniques to estimate the regressions. *Presidential election* is a dummy variable, which takes on a value of one in the year in which the election to replace a country's president is held. *Parliamentary election* is a dummy variable, taking on a value of one in the year in which the election to replace a country's legislature in a parliamentary system is held. *SIM.PRES.LEG* is a dummy variable capturing the years when both presidential and legislative elections are held simultaneously in a presidential or hybrid system. Firms' *Tobin's Q* is calculated as a firm's $(MVE + BVL) / BVA$, where *MVE*, the market value of equity; *BVL*, the book value of liabilities; and *BVA*, the book value of assets. *Operating cash flow/total asset* is a firm's operating cash flows deflated by its total assets in year *t*. Macroeconomic uncertainty is a *GARCH (1,1)* generated volatility index using individual volatilities of inflation, budget deficit/surplus, exchange rate, and GDP growth. These macroeconomic variables are extracted from the International Country Risk Guide (ICRG) database. Firm level variables are obtained from the *Worldscope* database. Electoral data are extracted from the database of political institutions (DPI). Standard errors are presented in squared brackets. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	<i>CAPEX</i>	<i>CAPEX</i>	<i>CAPEX</i>	<i>IIR</i>	<i>IIR</i>	<i>IIR</i>
<i>Presidential election</i>	-0.0004 [0.0005]			-0.0077 [0.0147]		
<i>SIM.PRES.LEG</i>		-0.0018*** [0.0006]			-0.0277** [0.0161]	
<i>Parliamentary election</i>			-0.0004** [0.0002]			-0.0027 [0.0028]
<i>Tobin's Q</i>	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0001 [0.0003]	-0.0001 [0.0004]	0.0005** [0.0002]
<i>Asset/GDP</i>	0.0004*** [0.0001]	0.0004*** [0.0001]	-0.0001 [0.0001]	-0.0047 [0.0040]	-0.0030 [0.0037]	0.0079*** [0.0022]
<i>Operating cash flow</i>	0.0001 [0.0002]	-0.0000 [0.0002]	-0.0001 [0.0002]	0.0005 [0.0134]	-0.0038 [0.0133]	-0.0130 [0.0093]
<i>Volatility index</i>	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	-0.0001** [0.0001]	-0.0000* [0.0000]	-0.0000* [0.0000]
<i>Firm-years</i>	4658	4658	4658	5958	5958	5958
<i>Number of firms</i>	1356	1356	1356	1523	1523	1523
<i>AR[2] p-val.</i>	0.3905	0.3576	0.5778	0.1000	0.1109	0.1301
<i>Sargan test p-val.</i>	0.3560	0.1679	0.3504	0.9656	0.9694	0.6059

Table 4
Regressions for firms' investment across institutional settings.

This table presents the results of firms' investment patterns in years of national elections during the period between 1990 and 2011. The first three specifications present baseline regressions of the effect of elections on rates of firms' investment in capital goods, defined as growth in *CAPEX*, calculated as $(Fixed\ assets_t - Fixed\ assets_{t-1}) / Total\ assets_{t-1}$, with fixed assets net of intangible and current assets. Likewise, specifications four through six use intangible intensity ratio, *IIR*, the ratio of $(Intangible\ assets_t - Intangible\ assets_{t-1}) / Total\ assets_{t-1}$ as dependent variables. We use GMM dynamic panel data techniques to estimate the regressions. *Presidential election* is a dummy variable, which takes on a value of one in the year in which the election to replace a country's president is held. *Parliamentary election* is a dummy variable, taking on a value of one in the year in which the election to replace a country's legislature in a parliamentary system is held. *SIM.PRES.LEG* is a dummy variable capturing the years when both presidential and legislative elections are held simultaneously in a presidential or hybrid system. Firms' *Tobin's Q* is calculated as a firm's $(MVE + BVL) / BVA$, where *MVE*, the market value of equity; *BVL*, the book value of liabilities; and *BVA*, the book value of assets. *Operating cash flow/total asset* is a firm's operating cash flows deflated by its total assets in year *t*. Macroeconomic uncertainty is a *GARCH (1,1)* generated volatility index using individual volatilities of inflation, budget deficit/surplus, exchange rate, and GDP growth. These macroeconomic variables are extracted from the International Country Risk Guide (ICRG) database. Firm level variables are obtained from the Worldscope database. Institutional variables such as *Checks & balances*, defined as the number of veto players that have to cooperate for policy changes to occur in a political system; and *Ctrl of corruption*. *CTRL* index is scaled from 0 to 6 assessing the degree to which a country's institutions are stable; *Ctrl of Corruption*, capturing the level of corruption within the political system with higher values implying less corrupt governance; and *GOV.Stability*, indicator of institutional and political stability are extracted from the International Country Risk Guide (ICRG). Standard errors are presented in squared brackets. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	<i>CAPEX</i>	<i>CAPEX</i>	<i>CAPEX</i>	<i>IIR</i>	<i>IIR</i>	<i>IIR</i>
<i>Presidential election</i>	-0.0042* [0.0024]			-0.0188*** [0.0414]		
<i>SIM.PRES.LEG</i>		-0.0089*** [0.0021]			-0.0105*** [0.0339]	
<i>Parliamentary election</i>			-0.0009 [0.0011]			0.0082 [0.0200]
<i>Tobin's Q</i>	0.0000 [0.0000]	-0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]
<i>Asset/GDP</i>	0.0006*** [0.0002]	-0.0001 [0.0001]	0.0010*** [0.0002]	0.0001 [0.0019]	0.0012 [0.0020]	-0.0015 [0.0016]
<i>Operating cash flow</i>	0.0001 [0.0002]	0.0000 [0.0002]	0.0004 [0.0002]	0.0020 [0.0031]	0.0019 [0.0031]	0.0001 [0.0030]
<i>Volatility index</i>	0.0000 [0.0000]	0.0000 [0.0000]	-0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	-0.0000* [0.0000]
<i>Ctrl of corruption</i>	0.0001*** [0.0000]	0.0001*** [0.0000]	0.0001*** [0.0000]	-0.0013 [0.0018]	-0.0004 [0.0017]	-0.0016 [0.0016]
<i>Ctrl of corruption * Pres. ELECT</i>	0.0024* [0.0013]			0.0267* [0.0148]		
<i>Checks – and – balances</i>	0.0000 [0.0001]	-0.0000 [0.0000]	0.0001** [0.0001]	-0.0004 [0.0016]	0.0003 [0.0007]	0.0004 [0.0007]
<i>Checks – and – balances * Pres.ELECT</i>	-0.0002 [0.0002]			0.0067*** [0.0164]		
<i>GOV.Stability</i>	-0.0000 [0.0000]	0.0002* [0.0001]	0.0002 [0.0001]	-0.0018 [0.0020]	-0.0017 [0.0022]	0.0017 [0.0023]
<i>GOV.Stability * Pres.ELECT</i>	0.0003*** [0.0001]			0.0151 [0.0092]		
<i>Ctrl of corruption * SIM.PRES.LEG</i>		-0.0003 [0.0002]			0.0008 [0.0023]	
<i>Checks – and – balances * SIM.PRES.LEG</i>		0.0044*** [0.0012]			0.0084*** [0.0197]	
<i>GOV.Stability * SIM.PRES.LEG</i>		0.0004*** [0.0001]			-0.0014 [0.0015]	
<i>Ctrl of corruption * Parl.ELECT</i>			0.0003*** [0.0001]			0.0018** [0.0008]
<i>Checks – and – balances * PARL.ELECT</i>			0.0002 [0.0002]			0.0025 [0.0035]
<i>GOV.Stability * PARL.ELECT</i>			0.0002 [0.0003]			-0.0013 [0.0047]
<i>Firm-years</i>	4656	4656	4656	5973	5973	5973
<i>Number of firms</i>	1355	1355	1355	1526	1526	1526
<i>AR[2] p-val.</i>	0.1955	0.4505	0.6391	0.6395	0.9236	0.6566
<i>Sargan test p-val.</i>	0.1559	0.1343	0.4596	0.8343	0.6266	0.2723

Table 5
Timing of elections: Regressions for firms' investment over the electoral cycle.

This table presents the results of firms' investment patterns in years of national elections during the period between 1990 and 2011. The first three specifications present baseline regressions of the effect of elections on rates of firms' investment in capital goods, defined as growth in *CAPEX*, calculated as $(Fixed\ assets_t - Fixed\ assets_{t-1}) / Total\ assets_{t-1}$, with fixed assets net of intangible and current assets. Likewise, specifications four through six use intangible intensity ratio, *IIR*, the ratio of $(Intangible\ assets_t - Intangible\ assets_{t-1}) / Total\ assets_{t-1}$ as dependent variables. We use GMM dynamic panel data techniques to estimate the regressions. *Presidential election* is a dummy variable, which takes on a value of one in the year in which the election to replace a country's president is held. *Parliamentary election* is a dummy variable, taking on a value of one in the year in which the election to replace a country's legislature in a parliamentary system is held. *SIM.PRES.LEG* is a dummy variable capturing the years when both presidential and legislative elections are held jointly in a presidential or hybrid system. *Pre – presidential election* is a dummy variable taking on a value of one in the year preceding the election to replace a country's president; while *post – presidential election* is a dummy variable, which takes on a value of one in the year following the election to replace a country's president. *Pre – parliamentary election* is a dummy variable, taking on a value of one in the year preceding the election of the parliament resulting the renewal of the country's prime minister; while *post – parliamentary election* is a dummy variable, which takes on a value of one in the year following the election of the parliament resulting the renewal of the country's prime minister. *Pre – SIM.PRES.LEG* is a dummy variable capturing the year preceding the jointly held presidential and legislative elections; while *Post – SIM.PRES.LEG* is a dummy variable taking on a value of one following the year in which a presidential election and a legislative election is held simultaneously. Firms' *Tobin's Q* is calculated as a firm's $(MVE + BVL) / BVA$, where *MVE*, the market value of equity; *BVL*, the book value of liabilities; and *BVA*, the book value of assets. *Operating cash flow/total asset* is a firm's operating cash flows deflated by its total assets in year *t*. Macroeconomic uncertainty is a *GARCH* (1,1) generated volatility index using individual volatilities of inflation, budget deficit/surplus, exchange rate, and GDP growth. These macroeconomic variables are extracted from the International Country Risk Guide (ICRG) database. Firm level variables are obtained from the Worldscope database. Electoral data are extracted from the database of political institutions (DPI). Standard errors are presented in squared brackets. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	<i>CAPEX</i>	<i>CAPEX</i>	<i>CAPEX</i>	<i>IIR</i>	<i>IIR</i>	<i>IIR</i>
<i>Presidential election</i>	-0.0245 [0.0240]			-0.0235* [0.0138]		
<i>Pre – presidential election</i>	-0.0064** [0.0267]			-0.0234** [0.0120]		
<i>Post – presidential election</i>	0.0038** [0.0190]			0.0080 [0.0124]		
<i>Tobin's Q</i>	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	0.0001** [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]
<i>Asset/GDP</i>	0.0001 [0.0001]	0.0005*** [0.0001]	0.0004*** [0.0001]	0.0153*** [0.0033]	0.0003 [0.0018]	-0.0013 [0.0021]
<i>Operating cash flow</i>	0.0002 [0.0003]	0.0004* [0.0002]	0.0000 [0.0002]	-0.0023 [0.0038]	0.0049* [0.0026]	0.0033 [0.0043]
<i>Volatility Index</i>	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	-0.0000** [0.0000]	0.0000 [0.0000]	-0.0001*** [0.0000]
<i>SIM.PRES.LEG.</i>		-0.0143 [0.0179]			0.0983 [0.1263]	
<i>Pre – SIM.PRES.LEG</i>		-0.0076 [0.0071]			-0.0066 [0.0457]	
<i>Post – SIM.PRES.LEG</i>		0.0116** [0.0048]			-0.0797 [0.1605]	
<i>Parliamentary election</i>			0.0002 [0.0009]			-0.0219* [0.0133]
<i>Pre – Parliamentary election</i>			0.0003 [0.0009]			0.0196* [0.0104]
<i>Post – Parliamentary election</i>			-0.0008** [0.0004]			-0.0098 [0.0122]
<i>Firm-years</i>	4658	4658	4658	5976	5976	5976
<i>Number of firms</i>	1356	1356	1356	1528	1528	1528
<i>AR[2] p-val.</i>	0.2201	0.5574	0.4598	0.8772	0.6438	0.3283
<i>Sargan test p-val.</i>	0.2746	0.1369	0.1167	0.4096	0.8392	0.2619

Table 6
Robustness checks: Regressions for firms' investment and the timing of elections.

This table presents the results of firms' investment patterns in years of national elections during the period between 1990 and 2011. The first three specifications present baseline regressions of the effect of elections on rates of firms' investment in capital goods, defined as growth in *CAPEX*, calculated as $(Fixed\ assets_t - Fixed\ assets_{t-1}) / Total\ assets_{t-1}$, with fixed assets net of intangible and current assets. Likewise, specifications four through six use intangible intensity ratio, *IIR*, the ratio of $(Intangible\ assets_t - Intangible\ assets_{t-1}) / Total\ assets_{t-1}$ as dependent variables. We use GMM dynamic panel data techniques to estimate the regressions. *Presidential election* is a dummy variable, which takes on a value of one in the year in which the election to replace a country's president is held. *Parliamentary election* is a dummy variable, taking on a value of one in the year in which the election to replace a country's legislature in a parliamentary system is held. *SIM.PRES.LEG* is a dummy variable capturing the years when both presidential and legislative elections are held jointly in a presidential or hybrid system. The March-April and the June-July conventional years are dummy variables, which take on a value of one if an election in either category is held during the first quarter or during the summer. Firms' *Tobin's Q* is calculated as a firm's $(MVE + BVL) / BVA$, where *MVE*, the market value of equity; *BVL*, the book value of liabilities; and *BVA*, the book value of assets. *Operating cash flow/total asset* is a firm's operating cash flows deflated by its total assets in year *t*. Macroeconomic uncertainty is a *GARCH (1,1)* generated volatility index using individual volatilities of inflation, budget deficit/surplus, exchange rate, and GDP growth. These macroeconomic variables are extracted from the International Country Risk Guide (ICRG) database. Firm level variables are obtained from the Worldscope database. Electoral data are extracted from the database of political institutions (DPI). Standard errors are presented in squared brackets. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	<i>CAPEX</i>	<i>CAPEX</i>	<i>CAPEX</i>	<i>IIR</i>	<i>IIR</i>	<i>IIR</i>
<i>Presidential election</i>	-0.0005 [0.0005]			0.0093 [0.0070]		
<i>March – April pres. election</i>	-0.0001 [0.0001]	-0.0001 [0.0001]		-0.0036** [0.0016]	-0.0047 [0.0049]	
<i>Jun – July pres. election</i>	-0.0006*** [0.0002]	-0.0005*** [0.0001]		0.0004 [0.0013]	0.0008 [0.0036]	
<i>Tobin's Q</i>	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0001]	0.0000* [0.0000]
<i>Asset/GDP</i>	0.0004*** [0.0001]	0.0004*** [0.0001]	0.0003*** [0.0001]	0.0003 [0.0017]	0.0348*** [0.0081]	0.0003 [0.0021]
<i>Operating cash flow</i>	0.0001 [0.0002]	-0.0000 [0.0002]	-0.0000 [0.0002]	0.0029 [0.0026]	0.0153*** [0.0046]	0.0032 [0.0036]
<i>Volatility Index</i>	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	-0.0000*** [0.0000]	-0.0000** [0.0000]	-0.0000** [0.0000]
<i>SIM.PRES.LEG.</i>		-0.0019*** [0.0006]			-0.0106 [0.0114]	
<i>Parliamentary election</i>			-0.0014*** [0.0002]			-0.0137*** [0.0029]
<i>March – April parl. election</i>			-0.0001 [0.0001]			-0.0028* [0.0015]
<i>June – July parl. election</i>			0.0001** [0.0001]			-0.0004 [0.0014]
<i>Firm-years</i>	4658	4658	4658	5976	5976	5976
<i>Number of firms</i>	1356	1356	1356	1528	1528	1528
<i>AR[2] p-val.</i>	0.3820	0.3449	0.6974	0.9663	0.1262	0.4997
<i>Sargan test p-val.</i>	0.4181	0.2003	0.1851	0.5857	0.8629	0.1722

Table 7

Robustness checks: Regressions for firms' investment and the timing of elections and other factors.

This table presents estimated results for the timing of elections in countries with exogenous and those with endogenous election dates. Exogenous election is defined by constitutionally fixed election dates while endogenous election is defined as flexible election dates. Legal origin is a dichotomy variable that takes on a value of 1 for countries of the French Civil Law legal family and 0 otherwise. Close election or margin of victory is a dummy variable that takes on a value of one if the vote difference of the votes collected by the winner and those received by the runner-up is less than 25%, and zero otherwise. The first three specifications present baseline regressions of the effect of elections on rates of firms' investment in capital goods, defined as growth in *CAPEX*, calculated as $(Fixed\ assets_t - Fixed\ assets_{t-1}) / Total\ assets_{t-1}$, with fixed assets net of intangible and current assets. Likewise, specifications four through six use intangible intensity ratio, *IIR*, the ratio of $(Intangible\ assets_t - Intangible\ assets_{t-1}) / Total\ assets_{t-1}$ as dependent variables. We use GMM dynamic panel data techniques to estimate the regressions. In specification (1) and (4), election year dummy stands for *Presidential election*, a binary variable which takes on a value of one in the year in which the election to replace a country's president is held. Whereas in specifications (2) and (5), election years dummy represents *SIM.PRES.LEG* or a dummy variable that captures the years when both presidential and legislative elections are held jointly in a presidential or hybrid system; in specifications (3) and (6) it stands for *Parliamentary election*, a dichotomy variable that takes on a value of one in the year in which the election to replace a country's legislature in a parliamentary system is held. Firms' *Tobin's Q* is calculated as a firm's $(MVE + BVL) / BVA$, where *MVE*, the market value of equity; *BVL*, the book value of liabilities; and *BVA*, the book value of assets. *Operating cash flow/total asset* is a firm's operating cash flows deflated by its total assets in year *t*. Macroeconomic uncertainty is a *GARCH* (1,1) generated volatility index using individual volatilities of inflation, budget deficit/surplus, exchange rate, and GDP growth. These macroeconomic variables are extracted from the International Country Risk Guide (ICRG) database. Firm level variables are obtained from the Worldscope database. Electoral data are extracted from the database of political institutions (DPI). Standard errors are presented in squared brackets. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	<i>CAPEX</i>	<i>CAPEX</i>	<i>CAPEX</i>	<i>IIR</i>	<i>IIR</i>	<i>IIR</i>
Election year dummy	-0.0015*** [0.0006]	-0.0010** [0.0004]	-0.0014*** [0.0003]	0.0087 [0.0062]	0.0111 [0.0108]	-0.0181*** [0.0042]
<i>Tobin's Q</i>	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	0.0001* [0.0000]
<i>Asset/GDP</i>	0.0003*** [0.0001]	0.0003*** [0.0001]	0.0004** [0.0001]	-0.0012 [0.0018]	-0.0015 [0.0017]	-0.0008 [0.0022]
<i>Operating cash flow</i>	0.0002 [0.0002]	-0.0000 [0.0002]	-0.0000 [0.0002]	0.0022 [0.0033]	0.0022 [0.0032]	0.0023 [0.0037]
<i>Volatility Index</i>	0.0000 [0.0000]	0.0000 [0.0000]	0.0000 [0.0000]	-0.0000** [0.0000]	-0.0000** [0.0000]	-0.0001** [0.0000]
<i>Fixed election date</i>	-0.0010** [0.0005]	-0.0011 [0.0008]	-0.0013*** [0.0002]	0.0059 [0.0053]	0.0049 [0.0083]	-0.0058** [0.0030]
<i>Election * legal origin</i>	0.0012*** [0.0002]		-0.0001** [0.0001]	-0.0187* [0.0098]		0.0011 [0.0014]
<i>Close election (margin of victory)</i>	0.0000 [0.0001]	-0.0000 [0.0001]	0.0001 [0.0001]	0.0065** [0.0029]	0.0061** [0.0029]	0.0059 [0.0039]
<i>Firm-years</i>	4658	4658	4658	5976	5976	5976
<i>Number of firms</i>	1356	1356	1356	1528	1528	1528
<i>AR[2] p-val.</i>	0.3902	0.6092	0.5584	0.1528	0.1240	0.4663
<i>Sargan test p-val.</i>	0.2476	0.1063	0.3660	0.5717	0.4278	0.2235

Table 8
Additional robustness checks.

This table presents the results of firms' investment patterns in years of national elections during the period between 1990 and 2011. The first three specifications present regressions of the effect of elections on rates of firms' investment in capital goods, defined as growth in CAPEX, calculated as $(Fixed\ assets_t - Fixed\ assets_{t-1}) / Total\ assets_{t-1}$, with fixed assets net of intangible and current assets. Specifications four through six use intangible intensity ratio, IIR, the ratio of $(Intangible\ assets_t - Intangible\ assets_{t-1}) / Total\ assets_{t-1}$ as dependent variables. We use GMM dynamic panel data techniques to estimate the regressions. *Presidential election* is a dummy variable, which takes on a value of one in the year in which the election to replace a country's president is held. *Parliamentary election* is a dummy variable, taking on a value of one in the year in which the election to replace a country's legislature in a parliamentary system is held. *SIM.PRES.LEG* is a dummy variable capturing the years when both presidential and legislative elections are held jointly in a presidential or hybrid system. The regressions control for the ideology of the incumbent government or market friendly *Incumbent*, a dummy variable that takes on a value of one if the incumbent government during the election year is right-leaning or centrist, and zero if left-leaning. Firms' *Tobin's Q* is calculated as a firm's $(MVE + BVL) / BVA$, where *MVE*, the market value of equity; *BVL*, the book value of liabilities; and *BVA*, the book value of assets. *Operating cash flow/total asset* is a firm's operating cash flows deflated by its total assets in year *t*. Macroeconomic uncertainty is a *GARCH* (1,1) generated volatility index using individual volatilities of inflation, budget deficit/surplus, exchange rate, and GDP growth. These macroeconomic variables are extracted from the International Country Risk Guide (ICRG) database. Firm level variables are obtained from the Worldscope database. Electoral data are extracted from the database of political institutions (DPI). Standard errors are presented in squared brackets. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	CAPEX	CAPEX	CAPEX	IIR	IIR	IIR
<i>Presidential election</i>	-0.0010** [0.0005]			0.0113 [0.0087]		
<i>Tobin's Q</i>	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0000]	-0.0000 [0.0001]	-0.0000 [0.0000]	-0.0000 [0.0000]
<i>Asset/GDP</i>	0.0003*** [0.0001]	0.0004*** [0.0001]	-0.0002 [0.0001]	0.0166*** [0.0045]	-0.0001 [0.0024]	-0.0007 [0.0023]
<i>Operating cash flow</i>	0.0001 [0.0002]	0.0000 [0.0002]	-0.0001 [0.0002]	0.0034 [0.0054]	0.0080** [0.0038]	0.0025 [0.0038]
<i>Volatility Index</i>	-0.0000 [0.0000]	-0.0000 [0.0000]	0.0000 [0.0000]	-0.0000** [0.0000]	-0.0000** [0.0000]	-0.0000** [0.0000]
<i>Ideology or Mkt friendly incumbent</i>	0.0001** [0.0000]	0.0001*** [0.0000]	0.0000 [0.0000]	-0.0029*** [0.0008]	-0.0021** [0.0009]	-0.0007 [0.0011]
<i>Presidential election * ideology</i>	-0.0005*** [0.0001]			-0.0064*** [0.0022]		
<i>SIM.PRES.LEG</i>		-0.0010* [0.0006]			0.0141 [0.0108]	
<i>SIM.PRES.LEG * Ideology</i>		-0.0006*** [0.0001]			-0.0104*** [0.0030]	
<i>Parliamentary election</i>			-0.0014*** [0.0002]			-0.0114*** [0.0040]
<i>Parliamentary election * ideology</i>			-0.0001 [0.0000]			-0.0022** [0.0009]
<i>Firm-years</i>	4633	4633	4633	5944	5944	5944
<i>Number of firms</i>	1348	1348	1348	1517	1517	1517
<i>AR[2] p-val.</i>	0.4306	0.3731	0.2344	0.6553	0.3031	0.7231
<i>Sargan test p-val.</i>	0.4616	0.3014	0.3579	0.3832	0.6396	0.3358