Political Investment Cycle of State Owned Enterprises

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ABSTRACT

Abundant prior literature has examined the difference in efficiency between state-owned enterprises (SOEs thereafter) and non-SOEs, and the literature's explanation for such a difference is that SOEs have multiple goals, and politicians' control over SOEs enables them to fulfill their own political goals. Consistent with this explanation, based on a large international sample of SOEs, this paper provides the first cross-country, firm-level empirical evidence about political influences on SOEs. It shows that during national election years, corporate investment by SOEs increases by an average of 23.08%, relative to nonelection years. The effect on SOEs' investment is greater for elections with close outcomes, and for elections in countries with low institutional quality, and for SOEs facing larger political pressure. Additionally, SOEs increase bank loan level by an average of 23.18% in election years in countries with state-dominated banking systems, relative to nonelection years. Overall, our results suggest that in election years, incumbent government uses SOEs for its political goals by increasing corporate investment and financing it via a state-dominated banking system.

1. Introduction

State-owned enterprises (SOEs thereafter) are widespread around the world (La Porta et al., 1999, 2002; Claessens et al., 2000; Borisova et al., 2015).[1] It is widely documented in the empirical literature that SOEs are less efficient compared to privately owned firms in terms of performance, productivity, and profitability (e.g. Megginson et al., 1994; D'souza and Megginson,1999; Dewenter and Malatesta, 2001; Megginson and Netter, 2001). The theoretical literature attributes the inefficiency to the multiple objectives (e.g. political objectives) of SOEs other than profit or shareholder-wealth maximization (see, e.g., Shleifer and Vishny, 1994; Shleifer, 1998). Specifically, as politicians typically like to remain in power and enjoy the associated private benefits and perquisites, they have strong incentives to use their control of SOEs as a means of channeling benefits to the constituents in exchange for political support (Shleifer, 1998; Shleifer and Vishny, 1998). In other words, the inefficiency stems from the politicians' deliberate use of SOEs in achieving their political goals. Despite of the well documented inefficiency of SOEs and the appealingness of the theoretical explanation, there is a striking paucity of papers that directly explore whether and how politician use SOEs to further their political goals. The lack of research might be partially driven by potential data availability on SOEs and the observability of politically-motived activities of the firms. In addition, while politicians have incentives to seek political support or private benefits from changes in firms' decisions, the mechanism through which such politically induced inefficiency of SOEs is manifested is often difficult to observe.

In this paper, we try to fill this gap by compiling a large panel of SOEs from the BvD's Amadeus database and examining the SOEs' investment behaviors surrounding the national elections. Our focus on national elections is based on the rationale that SOEs have limited resources so that politicians will use SOEs selectively in situations where they can provide the largest political gains. As politicians' main objective is to maintain political support and remain in

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[1] We consider a firm as state-owned if 25% or more of the shares are controlled by the government.

power, elections, in particular, tempt the incumbent politicians to use SOEs for their political and private interests (Shleifer, 1998; Dinc, 2005). Furthermore, national elections are recurring events which take place at different points in time and different regions, which aid in isolating the cofounding events and global trends that might affect corporate investments. The timing of elections is exogenous to any individual firm and is often fixed by constitutional law, allowing us to further alleviate the concern about reverse causality. To maximize the power of our tests, we assemble and examine a broad sample of 99,178 SOEs that were exposed to 53 national elections in 21 European countries occurring at different times during 2001 to 2012. These features further allow us to abstract from firm-, country- or year-effects on SOE investment.

We choose to examine investment for two reasons: First, investment is not only a key driver of economic growth, but also an important measure to increase the likelihood of incumbent government being re-elected as new investment projects from SOEs can generate economic and social benefits for individuals, communities and regions. In the well-known Fair (1978)'s econometric paper on elections, Fair begins with a basis of utility theory and builds a model in which a voter considers current economic conditions and his or her expected utility under each of the candidates; the voter then votes for the candidate under which he or she has higher expected utility. Fair then validates his model using a number of economic indicators, most notably the growth rate of GNP and unemployment rate. Consistently, Chattopadhyay and Duflo (2004) and Wolfers (2007) have shown empirically that investment expenditures and economic growth are important to voters when deciding whether to vote for an incumbent politician. In our sample, we show that the likelihood of incumbents winning the elections increases 56.25%, when gross capital formation growth changes from the 1st to the 3rd quartile of the sample distribution. This result confirms that incumbent politicians greatly benefit from investment and economic growth in election years, and thus they have the incentives to utilize their influence on SOEs to boost investment when politically most relevant. Therefore, if politicians intend to influence voters' preference prior to elections, one effective approach is to

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increase SOEs' investment in the run-up periods preceding the elections.

Second, if SOEs' investment projects around elections are truly politically motivated, these projects may be politically expedient but not necessary NPV maximizing. Private-owned banks may be unwilling or unable to finance these projects. Thus, such economically undesirable projects may be more likely to be financed by government-controlled banks which, under pressure from politicians, are obliged to offer loans to benefit the politicians (La Porta, Lopez-De-Silanes, and Shleifer, 2002; Megginson, Ullah and Wei, 2014). By documenting whether the increased SOEs' investments in election years are mainly financed via a state-dominated banking system, we can provide a comprehensive picture showing how politicians use SOEs along with a state-dominated banking system for political purposes during elections.

Consistent with the prediction that politician use SOEs to gain the political support and achieve their political goals, we document a sharp increase (23.08%) in corporate investment by SOEs in election years compared to non-election years, controlling for growth opportunities, cash flows, and economic conditions as well as firm and year fixed effects. This finding is robust to alternative measures of investment expenditures and growth opportunities and the inclusion of additional firm and macro controls, as well as firm and time period fixed effects. We also analyze the cyclical variations in investment patterns of SOEs over a three-year period around elections. If the dramatic increase in investment is mainly caused by incumbent politicians' incentives to please the voters in exchange for political support, we would be able to see that investment subsequently reverses downward in post-election years. Consistent with this predication, we find that SOEs experience a sharp decrease in investment in the first year immediately following the election.

In some countries, the elections are prescheduled and fixed in time by constitutional laws while in other countries, the incumbent governing body may have an option of calling for an election before the scheduled date. This option gives the incumbent some flexibility of calling for an election based on the macro economic conditions. Thus, it is likely that the bias resulting from the endogeneity of election timing works in favor of our hypothesis predicting an increase in

investment in election years. In order to ensure that the results are not contaminated in any way by this potential bias, we repeat the analysis by estimating our investment regressions only for countries with fixed election timing, and find highly robust results. Moreover, if the outcome of an election is well anticipated (i.e. a non-close election), the politicians should have less incentives to utilize SOEs to achieve their political goals during the election year. In contrast, if the election is highly competitive (i.e. a close election), the politicians should have more incentives to use SOEs to gain political support. We therefore expect the investment cycle to be more pronounced for elections with uncertain outcomes relative to those with well anticipated outcomes. Using the size of the ex-ante margin of election, i.e. vote difference between the vote share of the largest government party and largest opposition party as a proxy for the degree of expected outcome uncertainty in any given election, we examine whether, for countries with fixed timing elections, investment cycles vary with the degree of uncertainty across elections within countries. Consistent with this expectation, we provide robust evidence that close elections with fixed timing lead to a significant higher investment than elections in which the victor anticipates to win by a large margin. Specifically, for countries with fixed timing elections, a close election leads to a 110% increase in investment while non-close elections result in a 17% increase in investment.

The ability of politicians utilizing investment by SOEs to fulfill their own political goals also depends on the institutional quality of the country. We hypothesize and find that across countries, the investment cycles are more pronounced in countries in which political decisions are less constrained by various checks and balances, investments are heavily regulated, and bureaucracy quality is low.

The strength of political influences matters as well. The ability of politicians to use investment by SOEs to fulfill their own political goals depends on their political influence on the country's banking system and business sectors, and on their control of SOEs. For example, politicians can use their influence or control of the banking system to increase the bank direct lending to SOEs to finance the politically-motivated investment activities (Dinc, 2005; Claessens

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et al., 2008). Similarly, politicians can exert more profound influence on SOEs' investment behaviors in those industries highly sensitive to government policies and procurement (e.g. defense, health care, petroleum, etc.). Last but not least, when the state ownership of SOEs increases, politicians can have more control on the SOE's investment decisions. Consistent with our prediction, we find that election-year investment increases more in countries with state-dominated banking systems, and in SOEs operating in politically sensitive industries and SOEs with state ownership larger than 50% (i.e., the state has absolute control of the SOEs).

To better understand the investment channel, we explore and find that the impact of elections on investment is more pronounced for SOEs operating in infrastructure industries and industries with high labor intensity. This suggests that the promise of better infrastructure and greater employment are two of the channels through which politically driven investments woo voters.

To drill further down on the financing channel, we directly explore SOEs' bank loan ratio around the elections. If we find that SOEs borrow more from banks in election years mainly in countries with state-dominated banking systems, we can confirm the crucial role played by the state-owned banks in financing SOEs' investments and fulfilling incumbent politicians' political goals along with the SOEs. Focusing on the full sample, we find that on average there is significant increase in SOEs' bank loan in election years. Furthermore, when we partition sample into countries with state-dominated banking systems or not, we find that SOEs borrow significantly more from banks (23.18% increase) in election years in countries with state-dominated banking systems, compared to nonelection years. The results suggest that politicians are more likely to use state-owned banks to finance SOEs' investments for elections where votes are greatly needed.

Our study makes at least three contributions. First, our paper directly tests the political objective hypothesis in explaining the inefficiency of SOEs relative to private firms (e.g., Shleifer and Vishny, 1994; 1998; Shleifer, 1998). Unlike limited prior studies focusing on individual

countries such as Bertrand et al. (2007), Alok and Ayyagari (2015) and Cao et al. (2015), to our best knowledge, we are the first to examine and document how SOEs' investment behavior responds to political incentives pursued by politicians using a large panel of firms across countries. This result provides the missing evidence in the literature by demonstrating that government control over SOEs can lead to greater political influence over corporate decisions in the real economy. By doing so, our paper also contributes to the broader literature on the comparison of SOEs vs. private firms and the privatization literature (e.g. D'souza and Megginson, 1999; Dewenter and Malatesta, 2001; Megginson and Netter, 2001, Megginson, 2005).

Second, it is notable to mention that our study also complements the recent studies on the impact of political uncertainty on corporate investment. These studies focus on a large sample of publicly listed and mainly non state-controlled firms, and generally find that firms reduce investment when facing political uncertainty. For example, Julio and Yook (2012) document a reduction in investment expenditures by an average of 4.8% during election years relative to nonelection years, suggesting that political uncertainty deters investments. Jens (2016) examine the link between political uncertainty and firm investment using U.S. gubernatorial elections as a source of plausibly exogenous variation in uncertainty. She finds that investment declines 5% before all elections and up to 15% for subsamples of firms particularly susceptible to political uncertainty. Similarly, using a news-based index of policy uncertainty, Gulen and Ion (2016) document a strong negative relationship between firm-level capital investment and the aggregate level of uncertainty associated with future policy and regulatory outcomes. Their results support the notion that policy uncertainty can depress corporate investment by inducing precautionary delays due to investment irreversibility. Unlike the above studies, we focus on state-controlled and mostly unlisted firms across 21 European countries and we document a sharp increase (23.08%) in investment expenditures by SOEs during election years relative to nonelection years.[2] We further find that SOEs increase bank loan (23.18%) in election years only in countries with state-dominated banking systems. Our interpretation of the

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[2] Less than 7% of our sample firms are public firms.

above results is that incumbent politicians use SOEs and state-dominated banking systems for political purposes which affect real economic outcomes. Taken together, the evidence suggests that SOEs and private firms behave vastly differently because private firms' investment decisions are mainly based on business considerations while SOEs' investment decisions are largely motivated by political considerations. The sharp contrast effectively confirms the hypothesis that SOEs, unlikely other business enterprises, have multiple objectives, and need to serve the political goals of the politicians in critical events like elections.

Last but not least, we provide indirect evidence that is consistent with the political business cycle theory pioneered by Nordhaus (1975) and Hibbs (1977)'s models. The basic idea of the theory is that voters make their decisions based on the state of the economy at the time of the election, and thus the incumbent may choose policies to induce higher growth prior to an election. So far, little empirical evidence supports the political business cycle theory (see, e.g., Lewis-Beck, 1988; Alesina, Roubini, and Cohen, 1999; Faust and Irons, 1999; and Drazen, 2001). Unlike prior studies focusing on firms with various ownership structures, our study provides a strong research design by focusing on SOEs which are under greater political pressure compared to firms with other ownership structures. Although we don't examine government policy directly around elections, our evidence proves the existence of a political induced firm-level investment cycle in SOEs around elections.

The rest of the paper proceeds as follows. Section 2 describes the data, methodology, and empirical framework. Section 3 presents the basic results, a series of extensions and robustness check. Section 4 presents cross-sectional tests results. Section 5 considers additional tests, and Section 6 concludes.

2. Sample

2.1. Ownership, financial and national election data

We obtain ownership and financial data on sample firms from the BvD's Amadeus database. The Amadeus database, available starting in 2001, contains ownership and harmonized financial data on around 19 million privately held and publicly listed companies spanning all industries in 38 European countries. BvD collects the data from about 50 vendors across Europe (e.g., company registrars of national statistical offices, credit registries, stock exchanges, and regulatory filings). The primary advantage of the BvD database is its comprehensive coverage of both privately held and publicly listed firms; in many European countries the BvD coverage is representative of the population of firms as reported in the national census.

The ownership module of the Amadeus databases indicates whether a firm has a controlling shareholder or not. We classify a firm as without a controlling shareholder if, according to Amadeus, the firm has no recorded shareholder with an ownership stake over 24.99% (either direct stake or total stake) and, at the same time, the sum of ownership stakes of all known shareholders is at least 75.01%. To be classified as a SOE, a firm must meet two criteria: 1) the controlling shareholder must be a public authority, state, or government, and 2) the controlling shareholder holds an ownership stake over 25%. We only keep SOEs in our sample.[3]

We begin the sample in 2001, the first year for which we could obtain all information across our broad sample of countries from the Amadeus database. We end the sample in 2012, the last year for which firm-level data are available from the Amadeus database. As in Julio and Yook (2012), we obtain detailed election information from two databases. The source for election and regime change data is the Polity IV database from the Center for International Development and Conflict Management at the University of Maryland. This database contains annual information on the regime

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[3] A firm appears in Amadeus as long as it files its financial statements, and it remains in the database only for ten years after its last filing. Further, each update of the Amadeus databases only contains, for each firm, the latest ownership information available as of the time the data update is issued. Since we want to take a snapshot of the corporate ownership structure of a firm each year, we obtain all historical yearly updates of the Amadeus database released from May 2001 to Dec 2013.

and authority characteristics of all independent countries with populations exceeding 500,000. The second data source is the World Bank Database of Political Institutions, which furnishes information about electoral rules and the classification of candidates' political platforms. We supplement these databases with internet sources described in the text when election information is missing. Appendix A contains variable definitions. Similar to Burgstahler, Hail and Leuz (2006) and Badertscher, Shroff and White (2013), we require firm-year observations to have assets greater than EUR 100,000. We also exclude banks, insurance companies and other financial holdings (NACE 64-66) and regulated utilities (NACE 35) since typical investment models are not suited for financial firms and the investment decisions of utilities are often regulated. Finally, we drop firm-year observations with missing values for fixed assets, total assets, and sales, and delete countries without at least 100 firms with available data during the sample period. The final sample contains 99,178 firm-year observations around 53 national elections in 21 European countries. Furthermore, the unreported test on the distributions of the sample firms by industry reveals that SOEs are concentrating in real estate (15.88%), transportation and storage (14.57%), professional, scientific and technical activities (12.56%), and manufacturing (12.03%) industries.

2.2. Investment Measure

For the main tests, Following Mclean, Zhang, and Zhao (2012), we measure SOEs' firm-level investment (*INVESTMENT*) by combining the yearly growth in fixed assets and R&D spending, scaled by the beginning total assets of the year. This measure captures capital expenditures and R&D investment in a year. For the robust tests, we also examine two alternative measures: total investment (*TOTAL_INVESTMENT*) measured as the sum of growth in fixed assets, R&D spending and growth in inventory scaled by the beginning total assets of the year, and fixed investment (*FIX_INVESTMENT*) measured as growth in fixed assets scaled by the beginning fixed assets of the year.

2.3. Sample descriptive statistics

Table 1 provides summary statistics. Panel A reports summary statistics for firm-level, industry-level and country-level variables used in empirical tests. Panel B summarizes the mean and median values for investment (*INVESTMENT*) in election years compared to nonelection years. Panel C reports the number of firm-year observations, the number of elections by country, and key country-level metrics.

In Panel A of Table 1, we first present the firm-level variables used in our empirical tests after winsorizing extreme values (for none binary variables) at the top and bottom one percentile. We report investment (*INVESTMENT*), total investment (*TOTAL_INVESTMENT*) and fixed investment growth (*FIX_INVESTMENT*). Investment rate (*INVESTMENT*) varies substantially with a mean value of 0.029 and a standard deviation of 0.194. The mean total investment rate and fixed investment growth are 0.038 and 0.200, respectively. The distribution of *INESTMENT* indicates it is left-skewed. We also include *ELECTION*. *ELECTION* is an indicator that equals one for the election year and zero otherwise. Less than 25% firm-years in our sample are classified as *ELECTION* years.

The following firm-level control variables used in regression models are also reported: Sales growth (*SALE_GROWTH*) and cash flow (*CASH_FLOW*) of the sample firms. *SALE_GROWTH* is the operating revenue growth in the year, and *CASH_FLOW* is the cash flow scaled by the beginning total assets of the year. If cash flow is missing, then cash flow is calculated as net income plus R&D, depreciation and amortization. We also include firm size (log of total assets, *SIZE*), leverage (short term and long term debt scaled by total assets, *LEVERAGE*), cash holdings (cash & cash equivalent scaled by total assets, *CASH*), profitability (return on assets, *ROA*), tangibility of assets (*TANGIBILITY*), depreciation (*DEPRECIATION*), and *BANK_LOAN* which represents loan borrowed from banks, measured as the level of long-term bank debt plus bank loan in year t divided by the beginning total assets of the year. Last, we include an indicator variable *GOVCONTROL* to

capture whether the government has absolute control of a SOE or not. *GOVCONTROL* equals one if government ownership of the SOE is over 50%, and zero otherwise. Average sales growth *(SALE_GROWTH)* is 0.263, and average cash flow is 0.043. Average total assets is 17.83 million EUR (*SIZE*=2.881), and returns on assets is 1.7%. The mean ratio of cash & cash equivalent to total assets (*CASH*) is 14.5%; debts to total assets (*LEVERAGE*) 15.3%, property, plant, and equipment to total assets (*TANGIBILITY*) 46.5%; and bank loan to total assets (*BANK_LOAN*) 15.1%. Less than 50% of SOEs in our sample are completely controlled by the governments. Last, the average number of employee hired by SOEs is 757 (*EMPLOYEENUM*=-0.283).

At industry-level, we include *SENSITIVE*, an indicator variable which measures how sensitive an industry is to political pressure. *SENSITIVE* equals one if a SOE belongs to a politically sensitive industry, and zero otherwise. Our classification of sensitive industries is based on Herron et al. (1999) and includes tobacco products, pharmaceuticals, health care services, defense, petroleum and natural gas, telecommunications, and transportation. Among 842 industries (based on four-digit NACE code), 13.6% of industries are classified as sensitive industries.

At country-level, we first include a couple of country-election-level variables used as main variables in the election response regression models. Specifically, we include *WIN*, an indicator variable equal to one if the incumbent government wins the elections, and zero otherwise; and *CAPITAL_GROWTH,* measured as the percentage change in gross capital formation over the previous year for a given country. 37% of incumbent governments are reelected, and the mean capital formation growth is 3.7%. We also include macro-controls which may affect an incumbent government winning rate such as unemployment rate (*UNEMPLOMENT*), crime rate (*CRIME*), democracy index (*DEMOCRACY*), political system (*PRESIDENTIAL*), education level (*EDUCATION*) and legal system origin (*COMMON_LAW*). Our sample countries have mean crime rate of 5.8% and mean unemployment rate of 8.5%. *DEMOCRACY* is the overall democracy index

(with a range of 0 to 1) provided by the Economist Intelligence Unit.[4] A mean value of 0.807 indicates that our average sample countries are relatively democratic. *PRESIDENTIAL* is an indicator variable equal to one if the type of election is presidential, and zero if legislative. 11.3 % of our sample countries have presidential systems. *EDUCATION* is measured as the number of new entrants (enrollments minus repeaters) in the last grade of primary education, regardless of age, divided by the population at the entrance age for the last grade of primary education. On average, 97.9% of population in our sample countries finishes primary education. *COMMON_LAW* is an indicator variable which equals to one if origin of a country's legal system belongs to common law, and zero otherwise. 7.5% of our sample countries are common law countries. 12.3% of banks in our sample countries are controlled by the state, and the average real interest rate per country year is 2.6%.

We also include the following country-year-level variables: *CLOSE* captures the anticipated election closeness. *CLOSE* equals one if the vote difference is less than the first quartile value of the sample distribution, and zero otherwise. Vote difference is available annually and is calculated as the difference between the vote share of the largest government party and largest opposition party (data provided by the World Bank's Database of Political Institutions). Based on vote difference, on average, 26.5% of sample country-years may face close elections. In addition, we also report the mean growth rate in central government spending (*SPENDING_GROWTH*) as 1.7%, the GDP growth (*GDP_GROWTH*) as 1.7%, the growth rate in the money supply (*M2_GROWTH*) as 8.5%, the real interest rate (*REAL_INTEREST*) as 2.6%, and the inflation rate (*INFLATION*) as 2.8%.

Table 1 Panel B summarizes the mean and median values for investment (*INVESTMENT*) in election years compared to nonelection years. In nonelection years (73,222 firm-year observations), the unconditional average *INVESTMENT*, is 0.026. The rate increases by 0.011 to 0.037 in election

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[4] The index is based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. Countries are placed within one of four types of regimes: full democracies; flawed democracies; hybrid regimes; and authoritarian regimes.

years (25,956 firm-year observations). The increase, statistically significant at the 1% level, represents a 42% increase in the unconditional mean investment relative to non-election years in the overall sample of SOE firms. Thus, SOEs invest more in election years compared with nonelection years (p-value<0.01). Median comparisons, also presented in Panel B, yield identical conclusions. The univariate analysis, while not controlling for firm and country characteristics, provides preliminary evidence supporting the view that SOEs are more likely to invest more during election periods.

In Table 1 Panel C, we report the number of firm-year observations and the number of elections by country. We also summarize the mean value of the empirical variables used in the cross-sectional tests. We make the following observations. Elections are held every 3.77 years on average. Approximately 27% (27,022÷99,178) of the firm-year observations in the sample correspond to companies domiciled in Russia. To ensure that results are not driven by Russian firms, we repeat all empirical analyses excluding Russia and find that the conclusions are unaffected. Six out of 21 countries during our sample periods have exogenous elections (fixed-scheduled). The mean unconditional highest investment (*INVESTMENT*) by country varies from a low of 0.002 in SLOVAKIA to a high of 0.053 in DENMARK. The mean value of investment in Table 1 is positive for all countries, indicating that the SOEs in general have a positive investment. We also report mean GDP growth rate (*GDP_GROWTH*). Except for Greece, Italy and Portugal, all countries have positive mean GDP growth rates across the sample period.

The remaining columns in Panel C contain the mean values of the variables in country-level cross-sectional tests. *CHECKS* measures the number of decision makers whose agreement is necessary to effectuate policy changes. Higher (lower) values indicate that the consensus of more constituencies is required to implement policy changes and should be reflective of lower (greater)

political uncertainty (Julio and Yook, 2012).[5] *CHECKS* is measured annually on the World Bank Database of Political Institutions, regardless of the time interval between elections. Netherlands has the largest value of *CHECKS* (5.917) in the sample, consistent with a political system where proposed changes can be blocked by a number of institutions. *INVESTMENT_REGULATION* is an overall indicator of the government regulations imposed on businesses' investment, which assesses freedom from restrictions on the movement and use of investment capital, regardless of activity, within and across the country's borders. The Heritage Foundation calculates a quantitative score which ranges from 0 to 100, and larger value implies less regulations imposed by a government. To calculate *INVESTMENT_REGULATION*, we subtract the original Heritage Foundation score from 100 (and then scaled by 100) so larger value corresponds to more regulations imposed by the government on businesses. Luxembourg has the lowest value of *INVESTMENT_REGULATION* (0.083) in the sample, consistent with an economy with minimal regulation. Russia has the most aggressively regulated economies (*INVESTMENT_REGULATION*=0.646). *BUREAUCRACY* measures the institutional strength and quality of the bureaucracy that tends to minimize revisions of policy when governments change. Higher value indicates that the bureaucracy has more strength and expertise to govern without drastic changes in policy or interruptions in government services (Source: International Country Risk Guide). Russia has the lowest bureaucracy quality, indicating large policy swings (*BUREAUCRACY*=1). *STATE_BANK* captures the level of state-owned of banks in a country, and is measured as the mean proportion of banking assets in state-owned banks between 1999 and 2011, and Higher value indicates higher state ownership of banks in the domestic credit market. A bank is considered as state owned if 50 percent or more of the shares are controlled by the government. The state-owned bank data is provided at country level based on the bank regulation and supervision

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[5] Julio and Yook (2012) describe this measure, which represents a count of the number of veto holders in the political system based on current electoral procedures and laws. For example, the count is increased by one for presidential political systems and by one for each legislative body.

surveys dataset conducted by the World Bank (see also Barth, Caprio, and Levine, 2013). Russia has the highest percentage of state-owned banks (45.7%).

3. Empirical Results

This section presents our empirical findings related to changes in SOE investment around national elections. Using a multiple regression framework controlling for economic conditions and firm characteristics, we begin by confirming that voters respond to country-level GDP growth and investment growth, followed by examining whether investment of SOEs increases in election years. Finally, we address robustness of tests and examine the impact of election timing and predictability of outcomes.

3.1 Are election results responsive to investment decisions?

First and foremost, we need to confirm that SOEs have incentives to engage in politically motivated investment. We start by verifying that voters respond to aggregated GDP growth and investment growth at the country level when deciding whether to re-elect the incumbent party in next national elections based on the following model:

$$\text{Prob(WIN)}_{j,t} = \beta_0 + \beta_1 G_{j,t} + \beta_k X_{j,t} + \varepsilon_{j,t} \tag{1}$$

Subscripts j and t correspond to country and year, respectively. The dependent variable, *WIN*, is an indicator variable which equals one if the incumbent government wins the elections, and zero otherwise. The independent variable, G, refers to GDP growth (*GDP_GROWTH*), or gross investment growth (*CAPITAL_GROWTH*).[6] *GDP_GROWTH* is measured as the percentage of change in GDP (constant local currency unit) over the previous year, and *CAPITAL_GROWTH* is measured as the percentage of change in gross capital formation (formerly gross domestic investment)

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[6] We have also examined gross fixed investment growth, measured as the percentage change in gross fixed capital formation over the previous year, as our independent variable. 29 out of 53 countries have sufficient data for this test. The untabulated results are very similar to those of gross investment growth (*CAPITAL_GROWTH*) regression tests.

over the previous year. $X_{j,t}$ represents the set of control variables measured at the country-level. β_k is the vector of coefficient estimates. Year fixed effects are also included in the specification (1). Standard errors are clustered by country and year (Petersen, 2009).

We attempt to properly benchmark the winning probability for an incumbent government by controlling for country characteristics. Following La Porta et al., (1998), we include an indicator variable (*COMMON_LAW*) set to one if origin of a country's legal system belongs to common law, and zero otherwise. We control for a country's education level (*EDUCATION*). We also include inflation (*INFLATION*), unemployment rate (*UNEMPLOYMENT*), and crime rate (*CRIME*). Finally, we include democracy index (*DEMOCRACY*) and presidential indicator (*PRESIDENTIAL*).

The results of this analysis are reported in Table 2. We examine GDP growth (*GDP _GROWTH*) and gross investment growth (*CAPITAL_GROWTH*) in columns 1 and 3, respectively. We find that an increase in the GDP growth (column 1) or in the gross investment growth (column 3) is positively associated with an increase in the likelihood of the incumbent party winning the election. In terms of the control variables, only *COMMON_LAW* is positively significant (two-tailed p-value <0.1) and *UNEMPLOYMENT* is negatively significant (two-tailed p-value <0.05), which suggests that incumbent's likelihood of winning is significantly higher when the country has a common law system, and lower when the unemployment rate is high. These results are consistent with Fair (1978)'s findings that GDP growth and unemployment are the two major contributors of winning an election.

To gauge the economic significance of the impact of GDP growth and investment growth on the incumbent winning the elections, we estimate the marginal change in the probability of winning the elections for each of the independent variables. It is calculated as the change in the likelihood of the incumbent winning the elections when the underlying variable changes from the 1st to the 3rd quartile of the sample distribution, or from zero to one in the case of indicator variables, holding all other independent variables at their respective means. Results in Table 2 show that the probability of

the incumbent winning the elections is 39.60% higher when GDP growth increases from the 1st to the 3rd quartile of the sample distribution. This impact is higher than that of other variables. The probability of the incumbent winning the elections increases even more (56.25% higher) when investment growth increases from the 1st to the 3rd quartile of the sample distribution.

Overall, our findings in Table 2 support the view that incumbent politicians should regard investment as a relevant factor in their bid for re-election. Salient events, such as investment growth, appear predictive of the voting behavior of the electorate. Hence, incumbent politicians could in theory increase their winning chance by accelerating investment expenditures of SOEs around election time. In the next subsection, we empirically test whether SOEs indeed appear to engage in such practices.

3.2. SOEs' investment around national elections

We test whether SOEs' investment is greater in election years than nonelection years by investigating corporate investment policy in a multivariate setting, controlling for firm characteristics and economic conditions. We use the following specification to evaluate changes in SOEs' investment in election years that cannot be explained by the standard explanatory variables:

$$INVESTMENT_{i,j,t} = \beta_0 + \beta_1 ELECTION_{j,t} + \beta_k X_{i,j,t} + \varepsilon_{i,j,t} \qquad (2)$$

Subscripts i, j, and t correspond to firm, country, and year, respectively. We define $ELECTION_{j,t}$, the test variable, as an indicator that equals one if an election occurs within the calendar year (presidential elections for presidential systems and parliamentary elections for parliamentary systems) and zero otherwise.[7] This specification ensures that investments captured in

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[7] The political system is classified as presidential when 1) the chief executive is not elected or 2) presidents are elected directly or by an electoral college in the event there is no prime minister. In systems with both a prime minister and a president, exact classification depends on the veto power of the president and the power of the president to appoint a prime minister and dissolve parliament. Systems in which the legislature elects the chief executive are classified as parliamentary.

the test occur within the election year. The caveat of this specification is that some of the investments may occur after the election date. However, since SOEs are likely to announce investment plans prior to actual investments, these planned investments should also have the impact on voters' expected utility under the incumbent governments. Therefore, we believe this *ELECTION* specification is appropriate to capture the election effect on SOE investment. [8] The dependent variable, *INVESTMENT*, is defined before as the sum of the yearly growth in fixed assets and R&D spending, scaled by the beginning total assets of the year. $X_{i,j,t}$ represents a set of control variables, some of which are measured at the firm level and some of which are measured at the country level, depending upon data availability. β_k is the vector of coefficient estimates.

We attempt to properly benchmark the conditional mean investment for a SOE by controlling for changing firm characteristics or growth opportunities. We employ sales growth (*SALE_GROWTH*), as our proxy for the incentive to invest. We also control for cash flow level (*CASH_FLOW*). Finally, to capture the effects of general economic conditions on SOE investment, we include annual GDP growth (*GDP_GROWTH*), measured as the percentage change in gross domestic product (constant local currency unit) for a given country over the previous year. Firm and year fixed effects are also included in the specification (2). Standard errors are clustered by country and year (Petersen, 2009). The firm characteristics variables are winsorized at the 1st and 99th percentiles throughout the analysis. Later in the robustness section, we also explore various alternative specifications as well as to different measures of corporate investment and proxies for the incentive to invest.

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[8] As a robust test, we also define *ELECTION* as a dummy variable which equals one for any firm-year in which an election is held no more than 12 months after the fiscal year-end of year *t*. This specification ensures that investments captured in the test occur before the election date. The caveat of this specification is that some of the investments may occur too early to impact election results. The untabulated results are similar to what we report in the paper.

Table 3 Panel B contains the Eq. (2) estimation results. We estimate Eq. (2) with *ELECTION* as the only independent variable (column 1), with *ELECTION* and *SALE_GROWTH* (column 2), with *ELECTION*, *SALE_GROWTH*, *CASH_FLOW* (column 3), and with *ELECTION*, *SALE_GROWTH*, *CASH_FLOW* and *GDP_GROWTH* (column 4). Regardless of the estimation specification used, the coefficient estimate associated with *ELECTION* is statistically positive (two-tailed p-value< 0.01). We conclude that, consistent with our main prediction, SOEs' investment increases during election years. The results reported in column (4), which represent the baseline specification throughout the rest of the analysis, show that the SOEs' investment increases 0.6% in election years after controlling for growth opportunities and economic conditions. In terms of magnitude, the coefficient translates into an economically significant 23.08% (0.006/0.026) increase in investment relative to the average nonelection year investment.

The signs of the coefficient estimates associated with the control variables are generally consistent with predictions. Investment is positively associated with SOEs with higher sales growth and higher cash flow, and with SOEs domiciled in countries with better economic conditions, measured as GDP growth (two-tailed p-value< 0.05 for all coefficients on all control variables).

3.3. Robustness

We next conduct a battery of robust checks. First, we estimate the regression Eq. (2) using the natural logarithm of (1+INVESTMENT), *LN(1+INVESTMENT)* as dependent variable because distribution of *INVESTMENT* is left-skewed as indicated in Table 1. Next, we estimate the regression Eq. (2) using alternative measures of corporate investment 1) *TOTAL_INVESTMENT*; and 2) *FIX_INVESTMENT*. *TOTAL_INVESTMENT* is measured as the sum of growth in fixed assets, R&D spending and growth in inventory scaled by the beginning total assets of the year, and *FIX_INVESTMENT* is measured as growth in fixed assets scaled by the beginning fixed assets of the year. Table 4 Panel A presents the results for *LN(1+INVESTMENT), TOTAL_INVESTMENT* and *FIX_INVESTMENT* in columns 1-3, respectively. The main conclusions remain the same regardless of which alternative measures we use.

We also estimate the regression Eq. (2) using alternative proxies for growth opportunities (*SALE_GROWTH*). The alternative proxies include: 1) the mean worldwide industry-year sale growth for each four-digit NACE industry; 2) the median worldwide industry-year sale growth for each four-digit NACE industry; 3) the mean country-industry-year sale growth for each four-digit NACE industry; and 4) the median country-industry-year sale growth for each four-digit NACE industry. Table 4 Panel B columns 1-4 report the results for four proxies, respectively. The main conclusions remain the same regardless of which alternative measures we use.

We also include additional control variables in the base model. Table 4 Panel C reports the results. In Panel C, column 1 reports the specification that includes micro-level controls such as firm size (log of total assets, *SIZE*), leverage (short term and long term debt scaled by total assets, *LEVERAGE*), cash holdings (cash & cash equivalent scaled by total assets, *CASH*), and profitability (return on assets, *ROA*); columns 2, 3, 4, and 5 report the specification that includes other macro-level controls such as the growth in central government spending over the previous year (*SPENDING_GROWTH*), the growth in the money supply (*M2_GROWTH*) over the previous year, the real interest rate (*REAL_INTEREST*), and the inflation rate (*INFLATION*), respectively. The main conclusions remain the same regardless of the inclusion of additional control variables.

Next, following Julio and Yook (2012), we repeat our analysis excluding the three countries (Finland, France, and Poland) for which the classification requires some discretion to identity the chief executive of each country and the national elections associated with the selection of the chief executive, and find that the results are unchanged (column 6 of Panel C Table 4). During our sample period, many firms have experienced systemic banking crises (Laeven and Valencia, 2013). SOEs may increase investment with the goal to boost economy during banking crises. If these banking crises occurrences coincide with elections, it will work in favor of our hypothesis predicting an increase in investment in election years. To alleviate this concern, we eliminate these crisis country-years identified in Laeven and Valencia (2013), the conclusions remain the same (column 7 of Panel C Table 4). Eberly, Rebelo and Vincent (2009) note that lagged investment has been found to be

correlated with contemporary investment in many data samples. There may be some concern that the auto-correlation in capital expenditures may contribute to the political cycles documented in this paper. Column 8 of Table 4 Panel C reports the results when we include the lagged dependent variable on the right-hand side of the regression equation. We find that the main finding is robust to the inclusion of lagged investment. Finally, we address the concern that the results may be driven by some countries with disproportionate representation in our sample; namely, Russia and Poland together make up about 30% of the total sample. We re-estimate the investment specification after omitting these two countries from the sample. Column 9 of Table 4 Panel C reports the results and our main conclusions remain unchanged.

3.4. Additional analysis: election timing and predictability of outcomes

For some countries, the incumbent governing body may have the option of calling for an early election. This option allows the incumbent the flexibility of calling for an election when conditions are beneficial (for example, investment growth is high), rather than attempting to induce the perception of favorable conditions. As shown in Julio and Yook (2012), favorable economic conditions are more likely to increase the likelihood of an early election. Thus, it is likely that the bias resulting from the endogeneity of election timing works in favor of the hypothesis predicting investment increase in election years. In order to ensure that the results are not contaminated in any way by this potential bias, we sort countries into two groups: those with an unalterable ("exogenous") schedule and those where election timing is not fixed by constitutional law ("endogenous"), using the classification procedure in Julio and Yook (2012). In our sample, six out of 21 countries (13 elections and 48,483 observations) have fixed election timing, while 15 countries (40 elections and 50,695 observations) have flexible timing. We re-estimate Eq. (2) separately for the exogenous and endogenous groups and report the results in Table 5, columns (1) and (3), respectively. The results show that the coefficient estimates associated with *ELECTION* for both subsamples are statistically positive (two-tailed p-value < 0.01 for column 1 and <0.05 for column 3). Thus, the results are unlikely to be driven by the endogeneity of election timing.

In this subsection, we conduct another test to further probe our findings in Table 3. If the outcome of an election is well anticipated in advance, there should be little uncertainty associated with the election and therefore we expect that investment does not increase significantly in the election year. If the outcome is highly uncertain, however, we expect the effect of elections on investment to be large. Because we can observe the annual difference between the vote share of the largest government party and largest opposition party from the elections for all of the countries in the sample, we can use the ex-ante election margins to classify elections as close or not. We set a close election dummy (*CLOSE*) to one if the vote difference is smaller than the 1st quartile value of the sample distribution under consideration, and zero otherwise. *CLOSE* captures the anticipated election closeness.[9]

Table 5 columns 2 and 4 report the results of the investment regression with an interaction term between *ELECTION* and *CLOSE*. We conduct separate tests for countries with exogenous (fixed) election timing and those with endogenous (flexible) election timing. Column 2 reports the results for the sample of countries with exogenous election timing. The coefficient on interaction term is large, positive, and statistically significant (coefficient value=0.027 with two-tailed p-value< 0.1), consistent with the hypothesis that the magnitude of investment cycles is increasing with the degree of uncertainty surrounding the election. In terms of economic magnitude, a close election leads to a 110% increase in investment [(0.005+0.027)/0.029, the sum of the coefficients on *ELECTION* and *ELECTION*CLOSE* variables deflated by the sample mean investment], while non-close elections result in a 17% increase in investment [(0.005/0.029), the coefficient of *ELECTION* deflated by the sample mean investment]. This result also suggests that election-year increases in investment are relatively mild when election margins are large. Column 4 reports the results for the countries with endogenous timing of elections. The interaction term is not significant, suggesting there is no significant difference between close elections and non-close elections for endogenous

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[9] Yook and Julio (2012) use the ex-post actual vote difference to capture election outcome uncertainty, we believe our ex-ante measure is more suitable to capture expected election closeness for politicians.

elections, which is consistent with the view that incumbent governments time elections to maximize their chances of re-election.

3.5. Additional analysis: elections and corporate investment cycle

Our next additional test examines what happens around national elections. If increased investment in election years is truly politically motived, we should observe investment level subsequently reverses downward after elections. For the test, we conduct regressions tests based on a modified Eq. (2) by using *PRE* and *POST* variables to replace *ELECTION* in the equation. *PRE (POST)* is an indicator variable that equals one for the first year immediately (before) following the election year and zero otherwise. The reference dummy variable in these tests is *ELECTION*. So, the coefficients on *PRE* and *POST* variables measure the district level investments of SOEs one year before and one year after elections relative to election year, respectively.

Table 6 reports the test results and shows that the coefficient estimate associated with PRE is not significant. The coefficient estimate associated with POST is significantly negative (two-tailed p-value < 0.05). We view these results as providing additional evidence supporting our primary conclusion that there exists an investment cycle around election years for SOEs. These firms may overinvest during election years, which leads to a decrease in investments in the year immediately after elections.

4. Cross-sectional results

Having shown that investment is systematically higher in election years for the full sample, we now deepen the analysis by examining the cross-sectional variations in SOE investment cycles around elections. We conjecture that the ability of politicians utilizing investment by SOEs to fulfill their own political goals depends on the political institutional quality of countries (in which SOEs reside) as well as the strength of political influences (on countries' banking systems, business sectors, and SOEs). We first discuss the tests based on political institutional qualities across countries in Section 4.1, and then discuss the tests based on the strength of political

influences from politicians in Section 4.2.[10]

4.1 . Variations in the institutional qualities of countries

To examine the variations in the institutional qualities across countries, we examine three country-level institutional qualities: 1) the number of veto players in the governmental system at a given point in time based on the prevailing electoral rules and laws, which captures the number of decision makers whose agreement is necessary for the approval of policy changes, 2) the amount of regulations imposed by the government on businesses, which measures how much controls a government can have on businesses, and 3) the institutional strength and quality of the bureaucracy, which is an indicator for possible post-election policy swing.

We examine the impact of varying degrees of uncertainty on election outcomes and possible post-election policy changes. Facing larger uncertainty on election outcomes and possible post-election policy changes, incumbent government has more incentive to curry voter favor by increasing SOE investment in projects with greater voter salience (Rogoff, 1990). Following Julio and Yook (2012), we measure the degree of electoral uncertainty using the number of veto players (*CHECKS*). Low *CHECKS* indicates high electoral uncertainty because fewer political constituencies are needed to make large policy changes. We partition countries based on whether *CHECKS* is above median level or not into HIGH vs. LOW groups. We expect that SOEs residing in LOW group countries are more likely to increase investment in election years than those residing in HIGH group countries.

Incumbent governments in highly regulated countries should have more control over SOEs than those in less regulated countries (Frye and Shleifer, 1997). Thus, we also examine whether the amount of government investment regulation will affect SOEs' investment during elections. To

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[10] In addition, we also conduct a couple of unreported tests to test 1) whether a country with parliamentary or presidential election system, 2) whether a country with multi-party government or single-party government, or 3) whether a country belongs to EU or not will affect the positive association between ELECTION and INVESTMENT we found in the main test. We find no evidence that any of the above country-level characteristics affect the main results.

assess the amount of investment regulation imposed on businesses by the government (i.e., how easy it is to move and use investment capital in a country), we adopt a quantitative score (provided by the Heritage Foundation), derived annually from an array of measurements to assess freedom from restrictions on the movement and use of investment capital, regardless of activity, within and across the country's borders (ranging from 0 to 100). The yearly score ranges from 0 to 100 and large value implies less regulations imposed. To obtain *INVESTMENT_ REGULATION*, we subtract the original score from 100 (scaled by 100) so large value *INVESTMENT_REGULATION* corresponds to more regulations imposed. We partition countries based on whether *INVESTMENT_REGULATION* is above median level or not into HIGH vs. LOW groups. We expect that SOEs residing in HIGH group countries are more likely to increase investment during an election period than those residing in LOW group countries.

We next examine the institutional strength and quality of the bureaucracy (*BUREAUCRACY)* to minimize revisions of policy when governments change. This measure is provided by the International Country Risk Guide (ICRG) annually as a numeric variable with a range of 0 to 4. Higher *BUREAUCRACY* means the bureaucracy has more strength and expertise to govern without drastic changes in policy or interruptions in government services. Thus, countries with high *BUREAUCRACY* face less potential policy swing related to elections. We partition countries based on whether *BUREAUCRACY* is above median level or not into HIGH quality (i.e. smaller potential large policy swings) vs. LOW quality groups. We expect that SOEs residing in LOW group countries are more likely to increase investment during election periods than those residing in HIGH group countries.

Table 7 reports the regression results based on Eq. (2), conditional on HIGH vs. LOW groups for the above three country level variables. For the HIGH (LOW) *CHECKS* countries sample, the estimation results are reported in column 1 (2). As predicted, the tests of coefficient equality reveal that the coefficient estimates associated with *ELECTION* in column 1 are statistically smaller than the corresponding values of *ELECTION* in column 2 (χ^2=2.97, p<0.10). We conclude that our results

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support that SOEs in countries with a higher degree of electoral uncertainty (LOW *CHECKS*) are more likely to increase investment during elections.

For the HIGH (LOW) regulated countries sample, the estimation results are reported in column 3 (4). As predicted, the tests of coefficient equality reveal that the coefficient estimates associated with *ELECTION* in column 3 are statistically higher than the corresponding values of *ELECTION* in column 4 (χ^2=4.95, p<0.01). We conclude that our results support that SOEs in more regulated countries (HIGH *INVESTMENT_REGULATION*) are more likely to increase investment during elections.

For the LOW (HIGH) *BUREAUCRACY* countries sample, the estimation results are reported in column 5 (6). As predicted, the tests of coefficient equality reveal that the coefficient estimates associated with *ELECTION* in column 5 are statistically smaller than the corresponding values of *ELECTION* in column 6 (χ^2=2.67, p<0.10). We conclude that our results support that SOEs in countries with low bureaucracy quality are more likely to increase investment during elections.

4.2. Variation in political influences from politicians

To assess the cross-sectional variations in the impact of political influences, we examine the following factors which capture the political pressures in three different dimensions: 1) (country-level) state-dominated banking systems, 2) (industry-level) political sensitive industries, and 3) (firm-level) state-dominated SOEs.

We first assess the variations of political pressure at country level by examining the mean proportion of banking assets held by state-owned banks (*STATE_BANK*) in our sample period. A bank is considered as state-owned if 50 percent or more of the shares are controlled by the government. The rationale for this test follows: If SOEs' investment projects around elections are truly politically motivated, then these projects may be politically expedient but not NPV maximizing. Such economically undesirable projects may only be financeable by state-owned banks which, under pressure from politicians, may offer loans to benefit the politicians (La Porta, Lopez-De-Silanes, and

Shleifer, 2002; Megginson, Ullah and Wei, 2014).[11] Thus, we expect that SOEs' investment is more likely to increase in election years in countries with a higher percentage of state-owned banks. We partition countries based on whether *STATE_BANK* is above median level or not into countries with state-dominated banking systems vs. countries with non-state-dominated banking systems.

Columns 1 and 2 in Table 8 report the regression results based on Eq. (2), conditional on whether banking system of each sample country belongs to state-dominated or not. Results for SOEs in countries with state-dominated banking systems are reported in column 1, and results for SOEs in countries with non-state-dominated banking systems are reported in column 2. As predicted, the tests of coefficient equality reveal that the coefficient estimates associated with *ELECTION* in column 1 are statistically larger than the corresponding values of *ELECTION* in column 2 (χ^2=6.04, p<0.05). In summary, we conclude that our results support that SOEs in countries with state-dominated banking system are more likely to increase investment during elections.

Next, we assess the variations of political pressure at industry level. Industries are likely to differ from each other with respect to their sensitivity to political influences. For example, pharmaceuticals and health care services are heavily influenced by government policies, and defense and transportation industries are closely related to government spending. Thus, if incumbent governments intend to boost their investment during election years, they are more likely to start with politically sensitive industries so they can achieve more pronounced effects of increased investment. In addition, political sensitive firms may be also more willing to increase investment prior to election, hoping to maintain a good relationship with the incumbent government. Therefore, we would expect that SOEs' investment cycles around elections are more pronounced for politically sensitive industries than for non-politically sensitive industries. Based on Herron et al. (1999), we classify tobacco products, pharmaceuticals, health care services, defense, petroleum and natural gas,

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[11] A pair of prior studies support this view. Dinc (2005) shows that state-owned banks increase their lending in election years in major emerging markets. Sapienza (2004) finds that the interest rates charged by government-owned banks in Italy reflect the local power of the party that controls the bank.

telecommunications, and transportation industries as political sensitive industries, and other industries as non-political sensitive industries.

Columns 3 and 4 in Table 8 report the regression results based on Eq. (2), conditional on politically sensitive vs. non-political sensitive industries. The results for the politically influencing sample are reported in column 3, and the results for the non-politically sensitive sample are reported in column 4. As predicted, the tests of coefficient equality reveal that the coefficient estimates associated with *ELECTION* in column 3 are statistically larger than the corresponding values of *ELECTION* in column 4 (χ^2=3.55, p<0.1). We conclude that our results support that SOEs in politically sensitive industries are more likely to increase investment during elections.

Last, we next examine direct government ownership of SOEs. Higher ownership gives the government more direct control of SOEs' corporate decisions. Hence, we expect that the investment cycle should be more pronounced for SOEs with government absolute control (larger than 50%) than for other SOEs. We partition SOEs into whether government ownership of SOEs is above 50% or not into government absolute control group vs. non-government absolute control group.

Columns 5 and 6 in Table 8 the regression results based on Eq. (2), conditional on government absolute control group vs. non-government absolute control group. Results for the two groups are reported in column 5 (6). As predicted, the tests of coefficient equality reveal that the coefficient estimates associated with *ELECTION* in column 3 are statistically larger than the corresponding values of *ELECTION* in column 4 (χ^2=2.88, p<0.1). In summary, we conclude that our results support that SOEs with government absolute control are more likely to increase investment during elections than for other SOEs.

Taken together, the above results show that SOEs' investment cycles will be more pronounced for countries with state-dominated banking systems, for industries more sensitive to political pressures, and for SOEs with absolute government control.

5. **Additional Tests**

In section, we conduct a couple of empirical analysis to further explore SOE's investment channels and financing channels around elections. In addition, we also directly examine the SOEs' employment levels around elections

5.1. SOEs' investment channels around elections

The impacts of pre-election SOEs' investment on voters are unlikely to be homogeneous. For example, current employment conditions are of great importance to voters when deciding whether to re-appoint an incumbent politician (see for example Wolfers, 2002)., thus investments in high labor intensity industries should be more effective in term of wooing voters compared to those in low labor intensity industries. In addition, investments in infrastructure projects are more visible for voters, and also have the potential to benefit more voters by meeting their need for better infrastructure. Therefore, we conjecture that it is more effective for incumbent governments to attract votes by increasing SOEs' investments in industries with high labor intensity or in infrastructure industries.

To examine whether election year investment serves to address the needs of voters for higher employment, we split industries into high labor intensity (median or higher) and low labor intensity each country-year. Industry labor intensity is calculated as the median ratio of costs of employees to Operating revenue at the four-digit NACE level in each country-year. We expect that SOEs operating in high labor intensity industries are more likely to increase investment in election years than those operating in low labor intensity industries. Table 9 reports the results for high labor intensity sample (column 1), and low labor intensity sample (column 2). The coefficient estimates associated with *ELECTION* is only significantly positive for high intensity sample (two-tailed p-value< 0.01). The tests of coefficient equality further confirm the coefficient estimates associated with *ELECTION* are significantly higher for high labor intensity sample than the corresponding values of *ELECTION* for low labor intensity sample (χ^2=3.17, p<0.10). The results suggest that the election-year increases in investments are larger in industries which are associated with more employment opportunities. We view these results as consistent with the idea that incumbent governments believe that voters care about employment opportunities.

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To test whether investments from SOEs in infrastructure industries are more sensitive to elections, we partition firms based on whether a firm operates in infrastructure industries or not. Following Alok and Ayyagari (2015) and based on NACE REV2 codes, we classify the following industries as the infrastructure industries: transportation (roadways, railways, airways and waterways), waste management, communication, education and health services. We expect that SOEs operating in infrastructure industries are more likely to increase investment in election years than those operating in non-infrastructure industries. Table 9 reports the results for infrastructure sample (column 3), and non-infrastructure sample (column 4). While the coefficient estimates associated with *ELECTION* are significantly positive for both groups (two-tailed p-value< 0.1), the tests of coefficient equality show the coefficient estimates associated with *ELECTION* are significantly higher for infrastructure sample than the corresponding values of ELECTION for non-infrastructure sample (χ^2=2.69, p<0.10). The results suggest that the election-year increases in investments are larger in industries which invest in more infrastructure projects. We view these results as consistent with the idea that incumbent governments believe that infrastructure project investments will woo voters.

5.2. SOEs' financing channels around elections

SOEs need funds to finance the increase in investment in the election years. We conjecture that SOEs will borrow more from state-owned banks to finance the election-motivated investment since these banks are also under pressure from politicians. Observing an increase in borrowing from banks (especially from state-owned banks) will collaborate our hypothesis that SOEs change their investment behavior around national elections in order to help incumbent politicians win their reelections. It will also provide evidence that politicians utilize both SOEs and state-owned banks to pursue their political goals.

We use following Eq. (3) to evaluate changes in SOEs' bank borrowing in the election years that cannot be explained by the standard explanatory variables.

$$BANK\_LOAN_{i,j,t} = \beta_0 + \beta_1 ELECTION_{j,t} + \beta_k X_{i,j,t} + \varepsilon_{i,j,t} \qquad\qquad (3)$$

Subscripts i, j, and t correspond to firm, country, and year, respectively. The dependent variable, *BANK_LOAN* represents loan borrowed from banks and is measured as the level of long-term bank debt plus short-term bank loan in year t scaled by the beginning total assets of the year. *ELECTION* is defined as in Eq. (2). $X_{i,j,t}$ represents the set of control variables which are identified by prior studies to have affected a firm's capital structure. In particular, we include profitability (*ROA*), growth opportunities (*SALE_GROWTH*), tangibility of assets (*TANGIBILITY*), firm size (*SIZE*), depreciation (*DEPRECIATION*), inflation (*INFLATION*), and GDP growth (*GDP_GROWTH)*. Consistent with Antoniou, Guney, and Paudyal (2008), we expect that SOEs' bank loan level is inversely related to their profitability and growth opportunities. Mao (2003) shows that the effect of non-debt tax shields on market leverage is positive. If the amount of depreciation is the primary component of non-debt tax shields, the firm possesses relatively more tangible fixed assets that generate proportionally high levels of depreciation and tax credit. Such assets have collateral value for the attainment of secured debt, which in turn increases the debt capacity of firms, allowing them to borrow more and save more on tax (e.g., Flannery and Rangan, 2006). Thus, we also expect that SOEs with higher depreciation and higher tangible assets borrow more. Since larger firms are known to be less exposed to bankruptcy risk and hence are likely to be able to borrow more (Warner, 1977), we expect to see a positive association between leverage and firm size. Finally, we include inflation and GDP growth to control for any impact of these two factors on debt structure. We have no predictions on the direction of the impact of these two factors. Standard errors are clustered by country and year (Petersen, 2009). Firm characteristics variables are winsorized at the 1st and 99th percentiles throughout the analysis.

Table 10 contains the estimation results. We report the estimation results for the full sample in column (1). The results on control variables are generally consistent with our predictions. Bank loan levels are in general positively associated with the level of tangible assets, depreciation, and are negatively associated with profitability and growth opportunities. As predicted, the coefficient

estimate associated with *ELECTION* in column 1 is positive and significant (P-value<0.1), suggesting that SOEs increase borrowing from banks during election years for the full sample.

Next, we examine the cross-sectional differences in SOEs' borrowing behaviors by partitioning countries in which SOEs residing into countries with state-dominated banking systems vs. countries with non-state-dominated banking systems. We expect that SOEs in countries with state-dominated banking systems are more likely to increase their bank loan in election years than those in countries with non-state-dominated banking systems. The rationale of this prediction is based on the prior findings that political considerations influence the lending decisions of government-owned banks (Sapienza, 2004; Dinc, 2005; Khwaja and Mian, 2006; Claessens, Feijen, and Laeven, 2008; and Cole, 2009), and government control over banks leads to significant political influence over the real decisions of firms (Carvalho, 2014). Thus, in order to increase the investment of SOEs, politicians are more likely to drive state-owned banks to increase lending to SOEs in election years in countries with state-dominated banking systems.

Columns 2-3 in Table 10 report the regression results on the association between bank loan and elections, conditional on whether a country has a state-dominated banking system or not. Column 2 reports the results for state-dominated banking system group and column 3 reports the results for non-state-dominated banking system group. As predicted, only for the state-dominated banking system group, the coefficient on *ELECTION* is positively significant (two-tailed p-value < 0.01). The value of coefficient is 0.035, which translates into a 23.18% increase in economic magnitude ($0.035 \div 0.151$, the coefficient on *ELECTION* deflated by mean bank loan for the firms in our sample). The tests of coefficient equality reveal that the coefficient estimates associated with *ELECTION* in state-dominated banking system group are statistically larger than the corresponding values of *ELECTION* in non-state-dominated banking system group (χ^2=4.48, p<0.10). We conclude that our results support that only SOEs in countries with state-dominated banking systems increase bank borrowing in election years. These results collaborate our hypothesis that SOEs change their investment behavior around national elections in order to help incumbent politicians in their re-

election efforts. We also confirm the crucial role played by state-owned banks in financing SOEs' investments and fulfilling incumbent politicians' political goals along with the SOEs. These results further support our prediction the incumbent politicians utilize state-owned banks and SOEs jointly to fulfill their' political goals by encouraging state-owned banks to lend more money to SOEs over which they have most influences and in elections where votes are mostly needed.

5.3. SOEs' employment level around elections

As indicated in Fair (1978) and Wolfers (2002), unemployment rate is another important factor that decides the election outcomes. In addition to increasing investment level, SOEs may also systematically increase employment around election time to help incumbent politicians. We assume that SOEs face constraints in how much they can change employment levels for political reasons, since keeping more employees on the payroll or delaying the shutdown of a plant is costly for the firm. Therefore, we would expect that employment favors are focused around election times and in countries where the incumbent faces more uncertain re-election outcomes.

We use a modified Eq. (3) to evaluate changes in SOEs' employment level in the election years by keeping all independent variables except for DEPRECIATION. The dependent variable, EMPLOYEENUM is measured as the natural log of number of employees (in thousands) for the fiscal year. Consistent with our predication, the results in Table 11 show that the coefficient on ELECTION is significantly positive (two-tailed p-value<0.05), which confirms that SOE employment levels increase in election years. SOEs' firm-level number of employees is in general positively associated with the level of firm size and sale growth, and are negatively associated with GDP growth at country level. These results further support our prediction the incumbent politicians encourage SOEs to hire more workers in election years.

6. Conclusion

This paper explores whether incumbent politicians influence SOEs' corporate activities to achieve their political goals. Based on 99,178 firm-years exposed to 53 national elections across 21 European countries, we examine and find that SOEs' investment rate increases by an average

of 23.08% during election years. This finding is robust to the inclusion of alternative measures of investment expenditures, alternative measures of growth opportunities, previously identified determinants of investment and political participation, and controls meant to capture general macroeconomic conditions, as well as firm and time period fixed effects. We also show that the election-year increase in investment is followed by a temporary decrease in investment during the first or second year immediately following the election. The election-year increase in investment is offset by the post-election year deduction in magnitude. The cross-sectional tests reveal that the cycle is less pronounced in countries with more checks and balances in the political system, less regulated economy, and lower bureaucracy quality. We also find that investment increases more in countries with state-dominated banking systems, and in industries sensitive to political pressures, and in SOEs with government absolute control.

We further find an increase in bank loan levels in election years only for SOEs residing in countries with state-dominated banking systems. Such an increase is more pronounced when election outcomes are close, when SOEs are in politically influencing industries, and when SOEs are under government absolute control.

Several caveats are in order. First, while our measure of political uncertainty has several research design advantages, it does not capture other forms of political uncertainty that are specific to certain firms or industries, such as adverse actions of industry regulators. Second, we cannot speak to political uncertainty in authoritarian regimes; our measure of political uncertainty requires the occurrence of national elections. Last but not least, while the sample is global and the results appear robust, we are unable to investigate particular investment mechanisms as would be the case with a more focused sample. Overall, our results demonstrate the mechanism of state ownership inefficiency. We show that state ownership is inefficient because politicians utilize SOEs and state-owned banks jointly to pursue political objectives. To our best knowledge, we are the first to examine and document how SOEs' investment behavior responds to political pressure at the cross-country firm-level.

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References

Antoniou, A., Y. Guney, and K. Paudyal. 2008. The determinants of capital structure: capital market oriented versus bank oriented institutions. *Journal of Financial and Quantitative Analysis* 43, 59–92.

Alesina, A., G. D. Cohen, and N. Roubini. 1999. Political cycles and the macroeconomy. MIT Press, Cambridge, Massachusetts.

Alok, S., and M.Ayyagari.2015. Politics, State Ownership, and Corporate Investments. Working paper, Indian School of Business and George Washington University.

Badertscher, B., N. Shroff, and H. White. 2013. Externalities of public firm presence: Evidence from private firms' investment decisions. *Journal of Financial Economics* 109, 682-706.

Barth, J., G. Caprio, and Jr, R. Levin. 2013. Bank regulation and supervision in 180 countries from 1999 to 2011. NBER Working Paper No. 18733.

Bertrand,M., F.Kramarz, A. Schoar, and D.Thesmar. 2007 .Politicians, Firms and the Political Business Cycle: Evidence from France. University of Chicago, CREST-INSEE, Massachusetts Institute of Technology, and HEC.

Borisova,G.,V. Fotak, K. Holland, and W. L. Megginson.2015.Government ownership and the cost of debt: Evidence from government investments in publicly traded firms. *Journal of Financial Economics* 118(1), 168–191.

Burgstahler, D., H. Luzi, and C. Leuz. 2006. The importance of reporting incentives: earnings management in European private and public firms. *The Accounting Review* 81(5), 983-1016.

Cao,J., B. Julio, T. Leng, and S. Zhou. 2015. Political Turnover, Ownership, and Corporate Investment. Working paper, Singapore Management University and Oregon University.

Carvalho D. 2014. The real effects of government-owned banks: evidence from an emerging market. *The Journal of Finance* 69 (2), 577-609.

Chattopadhyay, R., and E.C. Duflo. 2004. Women as policy makers: evidence from a randomized policy experiment in india. *Econometrica* 72(5), 1409–1443.

Claessens, S., S. Djankov, and L. Lang. 2000.The Separation of Ownership and Control in East Asian Corporations. *Journal of Financial Economics* 58(1-2), 81-112.

Claessens, S., E. Feijen, and L. Laeven. 2008. Political connections and preferential access to finance: The role of campaign contributions, *Journal of Financial Economics* 88, 554–580.

Cole, S. 2009. Fixing market failures or fixing elections? Elections, banks and agricultural lending in India. *American Economic Journal: Applied Economics* 1, 219–250.

Dewenter K.L. and P.H. Malatesta.2001. State-owned and privately-owned firms: An empirical analysis of profitability, leverage and labor intensity. *American Economic Review* 91,320-334.

Dinc, I. S. 2005. Politicians and banks: Political influences on government-owned banks in emerging markets. *Journal of Financial Economics* 772, 453-479.

Drazen A. 2001. The political business cycle after 25 years. *NBER Macroeconomics Annual 2000*(15), 75-138. Edited by Ben S. Bernanke and Kenneth Rogoff, MIT Press.

D'Souza, J. and W. Megginson.1999. The financial and operating performance of privatized firms during the 1990s. *The Journal of Finance* 54, 1397-1438.

Fair,R., 1978. The Effect of Economic Events on Votes for President. *The Review of Economics and Statistics,* May 1978, 159-173.

Eberly, J., S.Rebelo, and N. Vincent.2009.Investment and value: A neoclassical benchmark, NBER working paper #13866.

Faust, J., and J. Irons. 1999. Money, politics and the post-war business cycle. *Journal of Monetary Economics* 431, 61-89.

Flannery, M. and K.Rangan. 2006.Partial adjustment towards target capital structures. *Journal of Financial Economics* 79, 469-506.

Frye, T., and A. Shleifer.1997.Invisible Hand and the Grabbing hand. *American Economic Review* 87
(2), 354-358.

Gulen, H., Ion, M., 2016. Policy Uncertainty and Corporate Investment. *Review of Financial
Studies*. 29 (3):523-564.

Hibbs, Jr., D. 1977. Political parties and macroeconomic policy. *American Political Science Review*
71(4), 1467-1487.

Jens, Candace. 2016. Political Uncertainty and Investment: Causal Evidence from U.S. Gubernatorial
Elections. Working paper, Tulane University.

Julio, B., and Y. Yook. 2012. Political uncertainty and corporate investment cycles. *The Journal of
Finance* 671, 45–83.

Khwaja, A., and A. Mian. 2006. Do lenders favor politically connected firms? Rent provision in an
emerging financial market. *The Quarterly Journal of Economics* 120, 1371–1411.

Herron, M.C., J. Lavin, D. Cram, and J. Silver. 1999. Measurement of political effects in the United
States economy: A study of the 1992 presidential election. *Economics and Politics* 11, 51–81.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny.1998. Law and finance. *Journal of
Political Economy* 106(6), 1113-1155.

La Porta, R., F. Lopez-de-Silanes, and A. Shleifer.1999. Corporate Ownership around the World. *The
Journal of Finance* 54(2), 471-517.

La Porta, R., Lopez-de-Silanes, F., and Shleifer A. 2002. Government ownership of banks, *The
Journal of Finance* 62, 265-302.

Laeven, L., and F. Valencia. 2013. Systemic banking crises database: An Update. *IMF Economic
Review*, 61, 225–270.

Lewis-Beck, M.S.1988. Economics and Elections. University of Michigan Press, Ann Arbor.

Mao C.X. 2003. Interaction of debt agency problems and optimal capital structure: theory and evidence. *Journal of Financial and Quantitative Analysis* 38(2), 399-423.

McLean D., T.Y. Zhang and M.X. Zhao. 2012. Why does the law matter? Investor protection and its effects on investment, finance, and growth. *The Journal of Finance* 67(1), 313-350.

Megginson, W., R. Nash, and M. Randenborgh.1994.The financial and operating performance of newly privatized firms: an international empirical analysis. *The Journal of Finance* 49, 403-452.

Megginson, W.2005.The economics of bank privatization. *Journal of Banking and Finance* 29, 1931-1980.

Megginson, W. L., and J. N.Netter. 2001. From state to market: A survey of empirical studies on privatization. *Journal of Economic Literature* 39, 321-389.

Megginson, W. L., Ullah, B. and Z.B.Wei.2014.State ownership, soft-budget constraints, and cash holdings: evidence from china's privatized firms. *Journal of Banking and Finance* 48, 276-291.

Nordhaus, W.1975.The political business cycle, *Review of Economic Studies* 42, 169-190.

Petersen, M. 2009. Estimating standard errors in finance panel data sets: comparing approaches. *The Review of Financial Studies* 221, 435-480.

Rogoff, K.1990. Equilibrium political budget cycles. *The American Economic Review* 801, 21-36.

Sapienza, P.2004.The effects of government ownership on bank lending. *Journal of Financial Economics* 72, 357-384.

Shleifer, A. 1998. State versus private ownership. *The Journal of Economic Perspectives* 124, 133-150.

Shleifer, A. and Robert W. Vishny.1994. Politicians and firms. *The Quarterly Journal of Economics 46,995-1025.*

Shleifer, A. and Robert W.Vishny.1998.The grabbing hand: government pathologies and their cures. Harvard University Press, Cambridge, MA.

Warner J. B.1977. Bankruptcy costs: some evidence. *The Journal of Finance* 32,337-347.

Wolfers J.2007.Are voters rational? Evidence from gubernatorial elections. Working paper, University of Pennsylvania.

Table 1 Descriptive Statistics

Panel A reports summary statistics. Panel B reports summary statistics for investment (INVESTMENT) in both election years and nonelection years. Panel C reports summary statistics for sample composition and mean characteristics by country in 21 countries. See the Appendix A for variable descriptions as well as the variable sources.

Panel A. Summary Statistics

	N	25%	50%	MEAN	75%	STD
FIRM-YEAR-LEVEL VARIABLES						
INVESTMENT	99,178	-0.029	-0.002	0.029	0.032	0.194
TOTAL_INVESTMENT	99,178	-0.036	0.000	0.038	0.054	0.238
FIX_INVESTMENT	95,758	-0.100	-0.014	0.200	0.103	1.201
ELECTION	99,178	0.000	0.000	0.262	1.000	0.440
SALE_GROWTH	99,178	-0.052	0.046	0.263	0.192	1.242
CASH_FLOW	99,178	0.001	0.037	0.043	0.096	0.172
LEVERAGE	98,281	0.000	0.002	0.153	0.209	0.260
SIZE	99,178	1.239	2.782	2.881	4.371	2.403
ROA	99,078	-0.013	0.023	0.017	0.082	0.266
CASH	99,178	0.008	0.049	0.145	0.178	0.227
BANK_LOAN	88,384	0.000	0.006	0.151	0.217	0.244
DEPRECIATION	88,384	0.000	0.000	0.099	0.081	0.201
EMPLOYEENUM	74,704	-3.863	-2.919	-2.783	-1.635	1.729
TANGIBILITY	88,384	0.145	0.463	0.465	0.772	0.328
GOVCONTROL	99,178	0.000	0.000	0.408	1.000	0.491
INDUSTRY-LEVEL VARIABLES						
SENSITIVE	842	0.000	0.000	0.134	0.000	0.341
COUNTRY-ELECTION-LEVEL VARIABLES						
WIN	53	0.000	0.000	0.377	1.000	0.489
CAPITAL_GROWTH	53	-0.032	0.040	0.037	0.111	0.127
COMMON_LAW	53	0.000	0.000	0.075	0.000	0.267
EDUCATION	53	0.954	0.989	0.979	1.012	0.049
UNEMPLOYMENT	53	0.052	0.077	0.085	0.098	0.044
CRIME	53	0.054	0.055	0.058	0.057	0.009
DEMOCRACY	53	0.763	0.805	0.807	0.892	0.138
PRESIDENTIAL	53	0.000	0.000	0.113	0.000	0.320
COUNTRY-YEAR-LEVEL VARIABLES						
SPENDING_GROWTH	196	0.004	0.014	0.017	0.031	0.024
GDP_GROWTH	200	0.003	0.019	0.017	0.037	0.030
CLOSE	200	0.000	0.000	0.265	1.000	0.442
INFLATION	200	0.016	0.024	0.028	0.034	0.024
STATE_BANK	200	0.009	0.080	0.123	0.207	0.136
M2_GROWTH	190	0.027	0.074	0.085	0.128	0.092
REAL_INTEREST	97	0.003	0.028	0.026	0.044	0.038

Panel B. Mean Investment Rates of SOEs in Election Years vs. Nonelection Years

	N	MEAN	MEDIAN	STD
Election Years	25,956	0.037	0.000	0.212
Nonelection Years	73,222	0.026	-0.002	0.188
Difference		0.011	0.002	
Difference test		8.05***	7.78***	

Panel C. Sample Composition and Mean Characteristics by Country

	N	# of ELECTIONS	SAMPLE PERIOD	ELECTION TIMING	INVESTMENT	GDP_ GROWTH	CHECKS	INVESTMENT_ REGULATION	BUREAUCRACY	STATE_ BANK
AUSTRIA	892	2	2004-	Flexible	0.031	0.017	4.000	0.269	4.000	0.040
BELGIUM	1,674	2	2004-	Flexible	0.020	0.014	4.444	0.133	4.000	0.000
CZECH	661	2	2005-	Flexible	0.006	0.027	5.750	0.300	3.000	0.084
DENMARK	365	1	2010-	Flexible	0.053	0.008	5.333	0.100	4.000	0.002
FINLAND	1,071	3	2001-	Flexible	0.022	0.019	4.250	0.271	4.000	0.055
FRANCE	8,592	2	2005-	Fixed	0.012	0.008	4.000	0.438	3.000	0.009
GERMANY	11,698	3	2001-	Flexible	0.017	0.012	4.583	0.129	4.000	0.389
GREECE	172	3	2005-	Flexible	0.025	-0.010	3.000	0.463	3.000	0.155
HUNGARY	177	1	2010-	Fixed	0.009	0.004	3.000	0.267	3.000	0.039
IRELAND	330	2	2003-	Flexible	0.001	0.017	5.300	0.095	4.000	0.207
ITALY	10,991	3	2001-	Flexible	0.021	0.002	3.417	0.288	2.514	0.091
LUXEMBOURG	118	2	2004-	Fixed	0.048	0.023	4.000	0.083	4.000	0.051
NETHERLANDS	852	5	2001-	Flexible	0.030	0.011	5.917	0.100	4.000	0.071
NORWAY	10,080	3	2001-	Fixed	0.012	0.016	5.000	0.446	4.000	0.000
POLAND	10,839	3	2001-	Flexible	0.043	0.038	4.083	0.417	3.000	0.274
PORTUGAL	1,287	3	2004-	Flexible	0.030	0.000	2.556	0.300	3.000	0.228
RUSSIAN	27,022	3	2001-	Fixed	0.048	0.047	3.333	0.646	1.000	0.457
SLOVAKIA	221	3	2005-	Flexible	0.002	0.038	4.750	0.288	3.000	0.080
SPAIN	5,078	3	2001-	Flexible	0.028	0.016	3.583	0.267	3.264	0.000
SWEDEN	2,494	2	2003-	Fixed	0.027	0.023	4.800	0.140	4.000	0.000
UK	4,564	2	2002-	Flexible	0.004	0.015	3.182	0.155	4.000	0.087
Total	99,178	53	2001-		0.029	0.017	4.210	0.273	3.407	0.123

Table 2 Are Election Results Responsive To Investment Decisions?

This table shows the results from Probit regression with GDP growth and investment growth. The dependent variable in all regressions is an indicator variable (WIN) for whether the newly elected party in current national election is the same as the previous one. GDP_GROWTH is defined as the percentage change in GDP over the previous year; CAPITAL_GROWTH is defined as the percentage change in gross capital formation over the previous year. Year fixed effects are included. For each variable, the coefficient estimate (standard errors) and marginal effect are reported in the top (bottom) row. Marginal change in probability is calculated as the change in the likelihood of winning an election when the underlying variable changes from the first to the third quartile of the sample distribution, or from 0 to 1 in the case of dummy variables, holding all other independent variables at their respective means. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)
	COEF. (SE)	MARGINAL Δ IN PROB. (%)	COEF. (SE)	MARGINAL Δ IN PROB. (%)
GDP_GROWTH	42.240**	39.60		
	(18.30)			
CAPITAL_GROWTH			15.020**	56.25
			(7.068)	
COMMON_LAW	1.259*	7.55	2.019*	7.55
	(0.692)		(1.054)	
EDUCATION	4.744	8.00	-0.469	-0.76
	(4.629)		(4.382)	
INFLATION	0.425	0.22	9.842	4.79
	(19.60)		(19.07)	
UNEMPLOYMENT	-24.12**	-36.13	-18.94**	-27.26
	(9.902)		(8.956)	
CRIME	-61.67	-5.02	39.20	2.44
	(38.59)		(68.02)	
DEMOCRACY	2.995	11.55	1.793	6.60
	(3.624)		(3.097)	
PRESIDENTIAL	0.659	11.32	0.203	11.32
	(1.587)		(1.683)	
INTERCEPT	-4.803		-5.420	
	(5.887)		(6.234)	
FIXED EFFECTS	Year		Year	
N of elections	53		53	
Chi squared	0.399		0.412	

Table 3 Baseline Investment Regressions

This table reports the baseline investment regressions results for the effect of national elections on SOE investment. See the Appendix A for variable definitions. Firm and year fixed effects are included. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)
	INVESTMENT	INVESTMENT	INVESTMENT	INVESTMENT
ELECTION	0.007^{***}	0.007^{***}	0.007^{***}	0.006^{***}
	(0.0019)	(0.0019)	(0.0018)	(0.0018)
SALE_GROWTH		0.002^{**}	0.002^{**}	0.002^{**}
		(0.0009)	(0.0008)	(0.0008)
CASH_FLOW			0.073^{***}	0.073^{***}
			(0.0128)	(0.0127)
GDP_GROWTH				0.186^{***}
				(0.0590)
INTERCEPT	0.063^{***}	0.061^{***}	0.058^{***}	0.055^{***}
	(0.0194)	(0.0194)	(0.0199)	(0.0203)
FIXED EFFECTS	Firm	Firm	Firm	Firm
	Year	Year	Year	Year
N	99,178	99,178	99,178	99,178
Adj. R^2	0.127	0.127	0.130	0.130

Table 4 Baseline Investment Regressions: Robustness

Table 4 reports additional tests and robustness checks. Sale growth, cash flow, and GDP growth are included as control variables. See the Appendix for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

In panel A, column (1) uses LN(1+INVESTMENT); Column (2) uses growth in fixed assets and R&D spending, plus growth in inventory scaled by beginning-of-year total assets (TOTAL_INVESTMENT); and Column (3) uses the percentage change in fixed assets over the previous year (FIX_INVESTMENT).

In panel B, column (1) reports the results using the worldwide industry-year average of sale growth for each four-digit NACE industry; Column (2) uses the median industry-level sale growth each year as the proxy for growth opportunities, based on four-digit NACE industries; Column (3) reports the results using the country-industry-year average of sale growth for each four-digit NACE industry; Column (4) uses the median country-industry-year sale growth each year as the proxy for growth opportunities, based on four-digit NACE industries.

In panel C, column (1) reports the specification that includes firm size (log of total assets), leverage (short-term and long-term debt scaled by total assets), cash holdings (cash & cash equivalent scaled by total assets), and profitability (ROA); Columns (2), (3), (4), and (5) report the specification that includes other macro-controls such as the growth in central government spending over the previous year, the growth in the money supply over the previous year, the real interest rate, the inflation rate, respectively; Column (6) reports the results with Finland, France, and Poland omitted from the sample. Column (7) reports the results with no financial crisis country-years sample based on Laeven and Valencia (2012); Column (8) reports the results with the lagged dependent variable on the right-hand side of the regression equation; Column (9) reports the results without Russia and Poland sample.

Panel A. Alternative Measures of Corporate Investment

	(1)	(2)	(3)
	LN(1+INVESTMENT)	TOTAL_ INVESTMENT	FIX_ INVESTMENT
ELECTION	0.004***	0.006**	0.023**
	(0.00155)	(0.0027)	(0.0104)
INTERCEPT	0.039**	0.068***	0.277***
	(0.0164)	(0.0242)	(0.0682)
FIRM-LEVEL CONTROLS	YES	YES	YES
MACRO-LEVEL	YES	YES	YES
FIXED EFFECTS	Firm	Firm	Firm
	Year	Year	Year
N	99,178	99,178	95,758
Adj. R^2	0.136	0.124	0.070

Panel B. Alternative Proxies for Investment Opportunities

	(1)	(2)	(3)	(4)
	WORLDWIDE INDUSTRY-YEAR		COUNTRY-INDUSTRY-YEAR	
	MEAN	MEDIAN	MEAN	MEDIAN
ELECTION	0.006^{***}	0.006^{***}	0.007^{***}	0.006^{***}
	(0.0019)	(0.0019)	(0.0019)	(0.0019)
SALE_GROWTH	0.019^{**}	0.053^{**}	0.012^{**}	0.040^{**}
	(0.0092)	(0.0226)	(0.0054)	(0.0156)
INTERCEPT	0.004^{*}	0.007^{***}	0.005^{**}	0.007^{***}
	(0.0022)	(0.0016)	(0.0019)	(0.0016)
FIRM-LEVEL CONTROLS	YES	YES	YES	YES
MACRO-LEVEL CONTROLS	YES	YES	YES	YES
FIXED EFFECTS	Firm	Firm	Firm	Firm
	Year	Year	Year	Year
N	99,178	99,178	99,178	99,178
Adj. R^2	0.130	0.130	0.130	0.130

Panel C. Other Additional Tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EXTRA MICRO-CONTROLS		**EXTRA MACRO-CONTROLS**				**OTHER ROBUST TESTS**			
	Size, leverage, cash and profitability included	Growth in central spending included	Prior year M2 growth included	Real interest rate included	Inflation included	Finland, France, and Poland omitted	Crisis Countries-years omitted	Lagged Investment	Russia and Germany omitted
ELECTION	0.007***	0.006***	0.005***	0.006**	0.006***	0.006***	0.005***	0.006***	0.009***
	(0.0020)	(0.00184)	(0.0018)	(0.0031)	(0.0019)	(0.0023)	(0.0018)	(0.0019)	(0.00179)
INTERCEPT	0.120***	0.055***	0.046**	0.096***	0.057***	0.045**	0.056***	0.067***	0.071***
	(0.0319)	(0.0203)	(0.0193)	(0.0175)	(0.0211)	(0.0230)	(0.0207)	(0.0221)	(0.0198)
FIRM-LEVEL	YES	YES	YES	YES	YES	YES	YES	YES	YES
MACRO-LEVEL CONTROLS	YES	YES	YES	YES	YES	YES	YES	YES	YES
FIXED EFFECTS	Firm Year	Firm Year	Firm Year	Firm Year	Firm Year	Firm Year	Firm Year	Firm Year	Firm Year
N	98,190	98,913	90,910	52,901	99,178	78,676	92,097	99,170	60,458
Adj. R^2	0.160	0.129	0.127	0.092	0.130	0.119	0.134	0.171	0.153

Table 5 Election Timing and Predictability of Outcomes

This table presents estimation results for election timing and predictability of outcomes. CLOSE is an indicator variable set to one if the vote difference between the vote share of the largest government party and largest opposition party is below the first quartile of the vote difference distribution over the sample of countries under consideration. See the Appendix A for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)
	EXOGENOUS TIMING SAMPLE		ENDOGENOUS TIMING SAMPLE	
ELECTION	0.008***	0.005**	0.005**	0.004*
	(0.0026)	(0.0022)	(0.0023)	(0.0024)
ELECTION*CLOSE		0.027*		0.004
		(0.0141)		(0.0054)
SALE_GROWTH	0.003**	0.003**	0.001	0.001
	(0.0013)	(0.0013)	(0.0009)	(0.0009)
CASH_FLOW	0.060***	0.060***	0.108***	0.108***
	(0.0157)	(0.0157)	(0.0170)	(0.0170)
GDP_GROWTH	0.194**	0.186**	0.148*	0.152*
	(0.0789)	(0.0862)	(0.0905)	(0.0910)
INTERCEPT	0.116***	0.095***	0.036**	0.037**
	(0.0115)	(0.0177)	(0.0176)	(0.0175)
FIXED EFFECTS	Firm	Firm	Firm	Firm
	Year	Year	Year	Year
N	48,483	48,483	50,695	50,695
Adj. R^2	0.106	0.106	0.166	0.166
# OF COUNTRIES	6	6	15	15
# OF ELECTIONS	13	13	40	40

Table 6 Changes in Investment in the Pre and Post-Election Periods

This table presents estimation results for election timing and predictability of outcomes. PRE (POST) is an indicator variable that equals one if an SOE is in the first (before) after the election year and zero otherwise. See the Appendix A for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)
	INVESTMENT
PRE	0.002
	(0.0023)
POST	-0.005**
	(0.0022)
SALE_GROWTH	0.002**
	(0.0008)
CASH_FLOW	0.073***
	(0.0127)
GDP_GROWTH	0.209***
	(0.0637)
INTERCEPT	0.057***
	(0.0200)
FIXED EFFECTS	Firm
	Year
N	99,178
Adj. R^2	0.130

Table 7 Elections and Investment: Institutional Quality Characteristics

This table reports the regressions results for the effect of national elections on SOE investment based on institutional quality characteristics. Our sample is divided into high and low groups conditional on whether the institutional quality proxies are above the median value or not. Columns (1)-(2) reports the Eq. (2) regression results for the association between SOE investment and national elections, conditional on the number of veto players in a political system (CHECKS). Columns (3)-(4) report the Eq. (2) regression results on the association between SOE investment and national elections, conditional on business regulations imposed by the governments on investment (INVESTMENT_REGULATION). Columns (5)-(6) report the Eq. (2) regression results on the association between SOE investment and elections, conditional on bureaucracy quality (BUREAUCRACY). See the Appendix A for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	CHECKS		INVESTMENT_REGULATION		BUREAUCRACY	
	HIGH	LOW	HIGH	LOW	HIGH	LOW
ELECTION	0.003	0.011***	0.009***	0.001	0.004*	0.010***
	(0.0032)	(0.0027)	(0.00215)	(0.0027)	(0.0024)	(0.00262)
SALE_GROWTH	0.002	0.002**	0.003***	0.001	0.002*	0.002*
	(0.0019)	(0.0010)	(0.0011)	(0.0013)	(0.0013)	(0.0011)
CASH_FLOW	0.073***	0.077***	0.063***	0.115***	0.077***	0.073***
	(0.0242)	(0.0154)	(0.0143)	(0.0259)	(0.0205)	(0.0158)
GDP_GROWTH	0.161**	0.217**	0.195***	-0.030	0.132*	0.177*
	(0.0703)	(0.0885)	(0.0704)	(0.0983)	(0.0674)	(0.0744)
INTERCEPT	0.106***	0.017	0.086***	0.019**	0.042*	0.082***
	(0.0174)	(0.0166)	(0.0191)	(0.0083)	(0.0251)	(0.0209)
Test of differences in the coefficients on ELECTION (β_1) between the two groups:						
	$\chi^2= 2.97^*$		$\chi^2=4.95^{***}$		$\chi^2= 2.67^*$	
FIXED EFFECTS	Firm	Firm	Firm	Firm	Firm	Firm
	Year	Year	Year	Year	Year	Year
N	25,981	73,197	65,768	33,410	34,401	64,777
Adj. R^2	0.192	0.113	0.115	0.168	0.158	0.117

Table 8 Elections and Investment: Politically Influence Characteristics

This table reports the regressions results for the effect of national elections on SOE investment based on politically influencing characteristics. Columns (1)-(2) report the Eq. (2) regression results for the association between SOE investment and national elections, conditional on whether a country has a state-dominated banking system or not. Columns (3)-(4) report the Eq. (2) regression results for the association between SOE investment and national elections, conditional on whether a SOE belongs to a politically sensitive industry or not, following Herron et al. (1999). Columns (5)-(6) report the Eq. (2) regression results on the association between SOE investment and national elections, conditional on whether a government has 50% or more ownership in a SOE or not. See Appendix A for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	STATE-DOMINATED BANKING SYSTEM		POLITICAL SENSITIVE INDUSTRY		GOVERNMENT ABSOLUTELY CONTROLLED SOES	
	YES	NO	YES	NO	YES	NO
ELECTION	0.017***	0.008***	0.017***	0.006***	0.009***	0.004**
	(0.00143)	(0.00219)	(0.00446)	(0.00187)	(0.00293)	(0.0019)
SALE_GROWTH	0.003*	0.002**	0.001	0.002**	0.002**	0.002*
	(0.0018)	(0.0009)	(0.0028)	(0.0008)	(0.0010)	(0.0012)
CASH_FLOW	0.061**	0.059***	0.100**	0.0702***	0.0932***	0.0620***
	(0.0249)	(0.0117)	(0.0303)	(0.0128)	(0.0187)	(0.0143)
GDP_GROWTH	0.726***	0.105*	0.496***	0.169***	0.234**	0.143**
	(0.107)	(0.0686)	(0.142)	(0.0597)	(0.0956)	(0.0602)
INTERCEPT	0.001	0.077***	0.039	0.055***	0.040*	0.072*
	(0.0087)	(0.0201)	(0.0465)	(0.0198)	(0.0210)	(0.0419)

Test of differences in the coefficients on ELECTION (β_1) between the two groups:

	$\chi^2= 6.04$**		$\chi^2=3.55$*		$\chi^2= 2.88$*	
FIXED EFFECTS	Firm	Firm	Firm	Firm	Firm	Firm
	Year	Year	Year	Year	Year	Year
N	38,350	60,828	9,112	90,066	40,424	58,754
Adj. R^2	0.109	0.392	0.166	0.144	0.116	0.107

Table 9 Elections and Investment: What are the Channels?

This table reports the regressions results for the effect of national elections on SOE investment based on industry characteristics. Our sample is divided into high and low groups conditional on whether industry characteristics are above the median value or not. Columns (1)-(2) reports the Eq. (2) regression results for the association between SOE investment and national elections, conditional on NACE four-digit industry-level employment growth (EMPLOYMENT_GROWTH). Columns (3)-(4) report the Eq. (2) regression results on the association between SOE investment and national elections, conditional on whether it belongs to infrastructure industry (INFRASTRUCTURE). See the Appendix A for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)
	INDUSTRY EMPLOYMENT GROWTH		**INFRASTRUCTURE INDUSTRY**	
	HIGH	LOW	YES	NO
ELECTION	0.009^{***}	0.001	0.010^{***}	0.004^{*}
	(0.0026)	(0.0043)	(0.00282)	(0.0021)
SALE_GROWTH	0.002^{*}	0.002	0.001	0.003^{***}
	(0.0012)	(0.0015)	(0.0018)	(0.0009)
CASH_FLOW	0.084^{***}	0.056^{**}	0.103^{***}	0.058^{***}
	(0.0125)	(0.0231)	(0.0185)	(0.0129)
GDP_GROWTH	0.199^{**}	0.113	0.183^{*}	0.171^{**}
	(0.0872)	(0.0891)	(0.0782)	(0.0738)
INTERCEPT	0.003	0.011^{***}	0.034^{*}	0.060^{**}
	(0.0030)	(0.0032)	(0.0204)	(0.0265)
Test of differences in the coefficients on ELECTION (β_1) between the two groups:				
	$\chi^2 = 3.17^{*}$		$\chi^2 = 2.69^{*}$	
FIXED EFFECTS	Firm	Firm	Firm	Firm
	Year	Year	Year	Year
N	54,677	42,407	37,803	61,375
Adj. R^2	0.203	0.084	0.142	0.121

Table 10 Elections and SOEs' Bank Borrowing: The Role of State-owned Banks

This table reports the regressions results for the effect of national elections on SOEs' bank loan levels. Column (1) reports the regression results on the association between bank loan and national elections, based on the full sample. Columns (2)- (3) report the regression results on the association between bank loans and national elections, conditional on whether SOEs reside in countries with state-dominated banking systems or not. STATE_BANK captures the level of state-owned of banks in a country. STATE_BANK is measured as the mean proportion of banking assets in state owned banks between 1999 and 2011. A bank is considered state owned if 50 percent or more of the shares are controlled by the government. We partition countries based on whether STATE_BANK is above median level or not into state-dominated banking system countries vs. non-state-dominated banking system countries. See the Appendix A for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)
	FULL SAMPLE	**STATE-DOMINATED BANKING**	
		YES	NO
ELECTION	0.003*	0.035***	0.002
	(0.0018)	(0.00309)	(0.0016)
TANGIBILITY	0.044***	0.036***	0.061***
	(0.0088)	(0.0084)	(0.0072)
SIZE	0.002	0.004***	-0.001
	(0.0043)	(0.0013)	(0.0013)
ROA	-0.020***	-0.025***	-0.019***
	(0.0039)	(0.0050)	(0.0062)
DEPRECIATION	0.233***	0.291***	0.182***
	(0.0355)	(0.0091)	(0.0075)
SALE_GROWTH	-0.001*	-0.003***	-0.001**
	(0.0006)	(0.0009)	(0.0005)
INFLATION	-0.060	0.266***	0.024
	(0.0857)	(0.0893)	(0.0960)
GDP_GROWTH	0.014	0.029	-0.046
	(0.0487)	(0.0565)	(0.0600)
INTERCEPT	-0.026	-0.076***	0.041*
	(0.0488)	(0.0150)	(0.0240)

Test of differences in the coefficients on ELECTION (β_1) between the two groups:

		$\chi^2 = 4.48$**	
FIXED EFFECTS	Firm	Firm	Firm
	Year	Year	Year
N	88,384	37,175	51,209
Adj. R^2	0.786	0.766	0.766

Table 11 Elections and Employment

This table reports the regressions results for the effect of national elections on SOE employment level. EMPLOYEENUM is the natural log of number of employees =Ln (Number of employees /1,000). See the Appendix A for variable definitions. For each variable, the coefficient estimate (standard errors) is reported in the top (bottom) row. Standard errors, clustered by country and year, are reported in brackets. *, **, and *** represent two-tailed significance levels at 10%, 5%, and 1%, respectively.

	(1)
	EMPLOYEENUM
ELECTION	0.027^{**}
	(0.0152)
TANGIBILITY	-0.012
	(0.0347)
SIZE	0.022^{***}
	(0.0100)
ROA	0.002
	(0.0141)
SALE_GROWTH	0.007^{*}
	(0.0044)
INFLATION	-0.876
	(0.5960)
GDP_GROWTH	-1.494^{***}
	(0.3950)
INTERCEPT	-2.305^{***}
	(0.1220)
FIXED EFFECTS	Firm
	Year
N	74,704
Adj. R^2	0.963

Appendix A: Variable definitions and construction

Variable	Description	Details and Source
Investment rate measures		
INVESTMENT	SOE investment ratio	The sum of the yearly growth in fixed assets and R&D spending, scaled by the beginning total assets of the year.
TOTAL_INVESTMENT	Total investment ratio	The sum of the growth in fixed assets, R&D spending, and growth in inventory, scaled by beginning-of-year total assets.
FIX_INVESTMENT	Growth in fixed investment	Percentage change in fixed assets over the previous year
Elections and outcome uncertainty measures		
ELECTION	Election Year Dummy	A dummy variable that takes the value of one for election years and zero otherwise.
PRE	Pre-Election Dummy	A dummy variable that takes the value of one if a firm-year is the first year immediately before the election year, and zero otherwise.
POST	Post-Election Dummy	A dummy variable that takes the value of one if a firm-year is the first year immediately following the election year, and zero otherwise.
CLOSE	Electoral margin	A dummy variable set to one if the vote difference is less than the first quartile value of the sample distribution, and zero otherwise. Vote difference is defined as the difference between the vote share of the largest government party and largest opposition party (available annually). Source: the World Bank's Database of Political Institutions
Variables used in election results response tests		
WIN	Re-elected probability	A dummy variable that equals one if the incumbent government wins the elections, and zero otherwise.
CAPITAL_GROWTH	Gross investment growth	The percentage change in gross capital formation (constant local currency unit) over the previous year. Source: World Development Indicators 2013.
GDP_GROWTH	GDP growth	The percentage change in gross domestic product (constant local currency unit) for a country over the previous year. Source: World Development Indicators 2013.

Appendix A Continued.

COMMON_LAW	Common law	A dummy variable set to one if origin of a country's legal system belongs to common law, and zero otherwise. Source: La Porta et al. (1998).
EDUCATION	Primary completion rate	The number of new entrants (enrollments minus repeaters) in the last grade of primary education, regardless of age, divided by the population at the entrance age for the last grade of primary education. Source: World Development Indicators 2013.
INFLATION	Inflation rate	Annual inflation rate based on consumer prices. Source: World Development Indicators 2013.
UNEMPLOYMENT	Unemployment rate	The share of the labor force that is without work but available for and seeking employment. Source: World Development Indicators 2013.
CRIME	Intentional homicide rate	Unlawful death rate purposefully inflicted on a person by another person. Source: UNODC Homicide Statistics 2013.
DEMOCRACY	Democracy index	The overall democracy index is based on five categories: electoral process and pluralism, civil liberties, the functioning of government, political participation, and political culture. Countries are placed within one of four types of regimes: full democracies, flawed democracies, hybrid regimes, and authoritarian regimes. Source: the Economist Intelligence Unit's (EIU).
PRESIDENTIAL	Presidential System	A dummy variable equal to one if the type of election is presidential, and zero if legislative. Source: the World Bank's Database of Political Institutions.

Control variables used in investment tests

SALE_GROWTH	Sales growth	Operating revenue at t divided by operating revenue at t-1, minus 1.
CASH_FLOW	Cash Flow	Cash flow divided by the beginning total assets of the year. If cash flow is missing value, then cash flow is calculated as net income plus R&D and depreciation and amortization.

Appendix A Continued.

Cross-sectional test variables (Institutional qualities)

CHECKS	The number of veto players	The number of veto players in a political system (available annually). Source: the World Bank Database of Political Institutions.
INVESTMENT_REGULATION	Investment Regulation	An indicator of the regulations imposed on investment by a government. The Heritage Foundation calculates a quantitative score to assess freedom from restrictions on the movement and use of investment capital, regardless of activity, within and across the country's borders. The yearly score ranges from 0 to 100 and large value implies less regulations imposed. To obtain INVESTMENT_ REGULATION, we subtract the original score from 100 (scaled by 100) so large value INVESTMENT_REGULATION corresponds to more regulations imposed. Source: the Heritage Foundation.
BUREAUCRACY	Bureaucracy quality	The institutional strength and quality of the bureaucracy that tends to minimize revisions of policy when governments change. Higher point value means the bureaucracy has more strength and expertise to govern without drastic changes in policy or interruptions in government services. The yearly index ranges from 0 to 4. Source: International Country Risk Guide (ICRG).

Cross-sectional test variables (Political influence qualities)

STATE_BANK	State ownership of banks in one country	The mean percentage of the banking system's assets in banks that are 50% or more owned by government in one country between 1999 and 2011 from the bank regulation and supervision surveys dataset from the World Bank. Source: Barth, Caprio, and Levine (2013).

Appendix A Continued.

SENSITIVE	Politically sensitive industry	A dummy variable set to one if the firm belongs to a politically influencing industry, and zero otherwise. Our classification of sensitive industries is based on Herron et al., (1999) and includes tobacco products, pharmaceuticals, health care services, defense, petroleum and natural gas, telecommunications, and transportation.
GOVCONTROL	Government absolute control indicator	A dummy variable equals one if government ownership of a SOE is over 50%, and zero otherwise.

Additional variables used in robust tests

SPENDING_GROWTH	Government spending growth	Growth in general government final consumption expenditure over the previous year. Source: World Development Indicators 2013.
M2_GROWTH	Money supply growth	Growth in money and quasi money (M2) over the previous year. Source: World Development Indicators 2013.
REAL_INTEREST	Real interest rate	The lending interest rate adjusted for inflation as measured by the GDP deflator. Source: World Development Indicators 2013.

Additional variables used in additional tests

BANK_LOAN	Bank debt structure	Total bank debt (long term bank debt + bank loans), scaled by beginning total assets of the year.
INFRASTRUCTURE	Infrastructure industry indicator	Dummy variable based on NACE REV2 codes that takes the value 1 for industries engaged in transportation (roadways, railways, airways and waterways), waste management, communication, education and health services.
EMPLOYMENT_GROWTH	Industry employment growth indicator	A dummy variable equals one if industry employment growth is more than median four-digit industry-level of each country-year, and zero otherwise.
EMPLOYEENUM	Number of employees	Natural log of number of employees =LN

		(Number of employees /1,000)
TANGIBILITY	Asset tangibility	Fixed assets as a proportion of total assets.

Appendix A Continued.

SIZE	Firm size	Natural log of total assets=ln(total assets/ 1,000,000)
ROA	Return on assets	Earnings before interest and tax, scaled by beginning total assets of the year.
DEPRECIATION	Depreciation	Depreciation expense as a proportion of total assets.
LEV	Book leverage	Total liability as a proportion of total assets.
CASH	Cash holding	Cash & cash equivalent, scaled by beginning total assets of the year.