Do Criminal Politicians affect Firm Investment and Value? Evidence from a Regression Discontinuity Approach*

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Abstract

We provide evidence on the effects of criminal/corrupt politicians on firm value and investments. Using a regression discontinuity approach, we focus on close elections to establish a causal link between election of criminal-politicians and firms' value and investment decisions. We utilize unique datasets on the criminal background of Indian politicians and details on investment projects in their districts. Election of criminal-politicians leads to lower election-period and project-announcement stock-market returns for local private-sector firms. There is sharp decline in total investment by private-sector firms in criminal-politician districts: Interestingly, the decline in private-sector investment is offset by a roughly equivalent increase in investment by state-owned firms. Corrupt politicians are less destructive when the overall corruption in the state is lower and when they belong to a political party that is in power at the state or national level.

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1. Introduction

Anecdotal and survey evidence suggest that emerging economies are rife with corruption -- far more so than more developed economies (e.g., Svensson, 2005). Contributing to the pervasive corruption are a plethora of factors that are associated with developing countries such as weak institutions, bureaucratic red-tape and cultural norms that are accepting of (or resigned to) corruption. Reducing corruption has proven to be difficult – which may not be surprising since it is in the interest of beneficiaries of a corrupt system to maintain weak institutions and complex, arbitrary rules that facilitate corruption.[1]

Our focus in the paper is on the economic implications of rampant corruption/criminality among politicians in India. There are several reasons to focus on India: First, it is an important developing economy, long plagued by corruption/criminality among its politicians and bureaucrats. In recent years corruption has emerged as a potent political issue and likely affected the outcome of the 2014 general election. A second reason to focus on India is the availability of data. The effort to clean elections has led to wider dissemination of information about the background of the candidates for public office, including criminal charges and convictions. Furthermore, there is novel and fairly comprehensive data on project investments by Indian corporations. This enables us to investigate a number of questions about the interplay between corruption and electoral outcomes on the one hand -- and corporate investment decisions and investor stock market reactions on the other.

While there are several studies of corruption in emerging economies including India, there are relatively few reliable estimates of the actual magnitude and broader economic consequences of corruption. In particular, empirical evidence documenting a link between the presence of criminal politicians and their impact on firms' real activity and shareholder value is limited. It is difficult to know, therefore, whether lower corruption could have significant implications for economic growth. This is since it is hard to discern whether corruption has a negative causal effect on economic growth or whether it is a manifestation of poor economic prospects. Our analysis of the data on corporate investments in the shadow of political corruption/criminality provides some insight on the issue.

[1] An especially egregious case is that of 2-G scam in India in which rules were manipulated in arbitrary ways to favor connected bidders for spectrum licenses.

The literature offers disparate views on the relation between corruption and economic growth. Earlier literature suggests that corruption can promote efficiency and growth by "greasing the wheels of bureaucracy".[2] The efficiency argument is essentially that the most efficient firms will be assigned projects since they can afford to pay the largest bribes. Hence, there may not be distortion in terms on allocation outcomes.[3] A sharply divergent view is the "grabbing hand" view of corruption (Shleifer and Vishny, 1993, 1998; Frye and Shleifer, 1997). According to this view, corruption affects economic growth. It can lead to the propping up of inefficient enterprises and a misallocation of human and financial capital. In these environments, entrepreneurs will seek ways to minimize their exposure to public corruption, even if this results in the adoption of inefficient technologies.[4]

We study the effect of Indian politicians with criminal backgrounds on the value and performance of firms and investments in their electoral districts. Since 2003, Supreme Court of India has mandated that the candidates contesting elections for federal and state legislatures file an affidavit declaring pending criminal cases, past convictions, assets, liabilities, educational qualifications etc. For our study, we use a database that collects the criminal background and other variables from the affidavits filed by candidates with the Election Commission of India before the 2004 and 2009 General Elections for the Lok Sabha (lower house of Indian Parliament). We refer to these politicians as "criminal" though, in most cases, they have been charged, rather than convicted of criminal activity. Actual conviction rates tend to be low, possibly indicating the difficulty of convicting politicians. The use of this data is validated by other studies that suggest that being charged with criminal activity correlates well with other measures of corruption.[5] We match the data on political candidates with that of election outcomes. This allows us to look at the impact of criminal election victories, especially in

[2] See, for example, Leff (1964), Huntington (1968).
[3] Corruption is found to have a fairly neutral effect in some situations. For instance, Gorodnichenko and Peter (2007) finds that, on average, public employees in Ukraine have consumption levels similar to those of their private sector counterparts, even though salaries are lower. It appears that what the government pays them is reduced to just about offset the amount they receive in bribes.
[4] For instance, they may adopt inefficient technologies with a high degree of reversibility since there may be less expropriation by corrupt officials if the entrepreneur can credibly threaten to shut down operations (Choi and Thum, 1998; Svensson, 2003).
[5] Banerjee and Pande (2007) estimate political corruption among candidates for political office by surveying journalists who covered that election and politicians who stood for election in neighboring jurisdictions. They then correlate the reported outcomes (such as whether the candidate faced criminal charges) with actual data on the same and find a high correlation.

close elections. We show that our results are robust to using an alternative, asset-based indicator of corruption.

The literature is somewhat ambiguous as to whether the election of a criminal politician is expected to have a negative or positive effect on the value and prospects of firms in his/her constituency. It is plausible, for instance, that criminal politicians may favor local firms, possibly ones that they have a past relationship with, at the expense of non-local firms. This could be done by increasing barriers to entry for non-local firms by, for instance, making it difficult to obtain approval for construction or utility connections. However, it is equally plausible that criminal politicians have a short-term focus and simply extract rents from firms in their districts to the greatest extent they can. In such cases, we would expect the valuation of these firms to be lower compared to firms in non-criminal politicians' districts.

Our data allow us to examine a number of important questions. First is whether corrupt/criminal politicians have a significant impact on productive activity. We address this by examining the value implications of new projects. To establish a causal link between the election of criminal politicians and firm value, we use a regression discontinuity approach that has been used in the literature on the causal effects of elections (e.g., Lee (2008), Chemin (2012)). Specifically, we compare the effects on firm and project values in districts where a criminal politician narrowly wins the election to the districts in which they narrowly lose against a non-criminal candidate. Further, we examine the response of corporations in terms of whether new investment projects are initiated and existing ones are completed or stalled. Our overall finding is that the election of corrupt politicians has a negative effect on firms with existing projects in the politician's district. Corporations are subsequently less likely to initiate or to complete projects. In addition, the announcements of new projects are generally treated less favorably by investors. Specifically, for private-sector firms,[6] the 3-day cumulative abnormal stock return around the project announcement date is on average 0.94% lower for projects announced in districts where a criminal politician narrowly won compared to districts in which a criminal politician

[6] We use terms such as 'private-sector', 'investor-owned' and 'investor-controlled' to refer to firms in which the government is not a majority shareholder. Firms in which the government has a controlling interest are referred to as being 'state-owned' or 'state-controlled'.

narrowly lost. The firms respond to the lower project valuation by sharply reducing average capital expenditure by $764.9 million over next five years in districts where a criminal candidate narrowly won. On the other hand, there is an increase in average investment by $561 million in districts where a criminal candidate narrowly lost to a noncriminal candidate. The difference of $1.33 billion is both economically and statistically significant.

The finding that the election of corrupt politicians discourages new investment projects and hurts the value of firms in their districts raises the question of how they are, nevertheless, able to attract support from voters and get elected?[7] One explanation may have to do with ethnic identity. It is possible that certain communities may be willing to support politicians from their own communities (or castes) as long as the criminal activities work in their favor or, at least, are not directed against the community. For instance, politicians may be able to extract rent from existing enterprises and demand that his/her supporters be favored for employment or business contracts.

It is also possible that corrupt politicians support local enterprises – while disfavoring competition from outside firms. We, therefore, examine the impact of election outcomes on different types of firms: by whether firms are local vs. non-local in terms of their past investments and headquarter location. And to see whether there are differences in terms of whether the firms that are affected positively or negatively tend to be state-majority-owned enterprises. The notion is that a corrupt politician may have greater ability to extract rents from enterprises in which the government is a significant owner.[8]

Our results indicate that both local and non-local investor-controlled corporations suffer when a corrupt politician is in power. At the time of the election of a criminal politician (in close elections) both types of firms suffer a significant loss in firm value. In terms of the market reaction to the announcement of a new project investment: the negative reaction is more evident for the non-locals. Our interpretation is that there is little surprise associated with decisions by local firms to invest in the

[7] We believe that the elections in India are relatively 'clean' and the Election Commission in India appears to have been successful at eliminating large-scale tampering with ballots and direct intimidation of voters.
[8] These are typically publicly traded corporations that came into being as a result of partial privatization of previously wholly owned state corporations.

local area – but more of a negative surprise when a non-local firm invests in a corrupt politician's district. There is also a decrease in aggregate investment by firms in the corrupt politician's district, though effects are smaller for local firms. An intriguing finding, however, is that while there is a reduction in the investment by investor-controlled corporations – this is offset to a large extent by an increase in investment by state-controlled enterprises. This suggests that, to an extent, corrupt politicians may be able to keep their supporters satisfied, by providing them employment and business opportunities in connection with investments by state-owned firms over which they may exercise greater control.

We also examine whether it matters as to whether the politicians are seasoned and/or belong to the political party that is in power at the state or national level. Our results indicate that seasoned politicians e.g., incumbents, that may have greater ability to influence local economic activity are more strongly associated with negative effects on corporations. We also find that corrupt politicians may be more restrained when their party is in power, when there is a stronger incentive to not disrupt the relation between the electorate and the party. It seems that the impact is worse when the corrupt politician belongs to a party that is out of power at the state or national level -- and who may, therefore, be less restrained in terms of exercising his/her local power. This is broadly consistent with the hypothesis that decentralized corruption, in which corrupt officials are acting in their own narrow self-interest, is more harmful for economic activity.[9]

Our paper is related to several strands of the finance and economics literature. First, there is a relatively new and growing literature that examines the effect of political connections on firm value. Among these, Fisman (2001) estimates the value of political connections by examining the stock price reaction of Indonesian firms connected to Suharto to news releases about his health. Faccio (2006)

[9] There are several cases in which the state government supported a particular corporate project – but the local politician belonged to an opposition party that was inclined to stall development in the state in order to gain politically. Among well-publicized examples are: In August 2006 Raj Babbar, an MP (Member of Parliament) from north Indian state of Uttar Pradesh participated in protests to stall the upcoming power plant project by Reliance Energy in Dadri (http://www.oneindia.com/2006/08/16/up-to-ensure-status-quo-at-dadri-vp-presses-ahead-with-march-1155731987.html). Recently, $12 billion investment by South Korean steel company POSCO in eastern Indian state of Odisha was abandoned after local protests against land acquisition, including ones organized by local Member of Parliament, Bidhu Prasad Tarai (http://news.rediff.com/report/2010/may/15/cpi-mp-arrested-at-posco-site-in-orissa.htm).

examines the value of political connections in several countries and finds positive benefits channeled to relatively poor performing firms. Similar results are reported in Goldman et al. (2007) and Do, Lee and Nguyen (2013). Our paper also relies on the stock market values of firms that could be affected by the election of politicians that are known to be corrupt. We find that the election of corrupt politicians has a negative value impact on both local and non-local investor-controlled firms with investments in his/her electoral district. Investor controlled firms reduce their investments in the electoral district of corrupt politicians.

There are several papers that examine the welfare effects of criminal politicians. For example, using data on politician affidavits, Chemin (2012) uses a regression discontinuity (RDD) approach around elections to show that criminal politicians have a negative effect on their constituents. We rely on a similar RDD approach and examine the impact of corrupt politicians winning or losing narrowly. Fisman, Schulz and Vig (2014) study the wealth accumulation of Indian politicians and show that annual asset growth of election winners is 3-5% higher than losers. Of the papers that study the impact of corruption on firm growth and investments, Fisman and Svensson (2007) finds that a 1 percentage point increase in bribes reduces annual firm growth by 3 percentage points. Khwaja and Mian (2005) show that politically connected firms, defined as those with a politician on their boards, receive larger loans from government banks despite a higher default rates on these loans. Our paper provides consistent evidence of corruption-induced distortions affecting economic activity.

There is evidence that suggests that corrupt politicians favor state-owned enterprises over non-state-controlled firms. Nguyen et al. (2012) finds that corruption hampers the growth of Vietnam's private sector, but is not detrimental for growth in the state sector. This is consistent with our findings that corrupt politicians appear to discourage the growth of private firms – but appear to facilitate the growth of SOEs. Finally, Shleifer and Vishny (1993) argue that centralized political institutions provide incentives for leaders to limit the extent of arbitrary behavior on the part of lower-level officials. When corruption is decentralized, by contrast, no individual politician or bureaucrat fully internalizes the costs of their corrupt behavior, and property rights are less secure as a result. We find support for this

behavior in our study as well. Corruption appears to have far worse effects when the criminal politician does not belong to the party in power at the state or national level.

2. Data

We use data from multiple sources. Since 2003, Supreme Court of India has required candidates contesting elections for federal and state legislatures to file an affidavit that declares pending criminal cases and past convictions and provides information such as assets, liabilities and educational qualifications. The specific database we use is compiled by the Association of Democratic Reform (available at http://www.myneta.info) that collects the criminal background and other variables from the affidavits filed by candidates with the Election Commission of India before the 2004 and 2009 General Elections for the Lok Sabha, the lower house of Indian Parliament.[10] We get the election results data i.e., the number of votes polled for each candidate and total number of votes polled in each constituency from the Election Commission of India website (www.eci.nic.in) and merge it with the database of candidate background variables. We match the parliamentary constituencies with administrative districts using the information available on the Election Commission of India website.[11] We also account for the change in constituencies or their boundaries caused due to delimitation of constituencies before the 2009 elections.

The summary statistics for the elections database is presented in Table 1. Our sample includes 1023 constituencies out of the 1086 constituencies for which voting was held during two general elections (2004 and 2009). These constituencies cover 569 districts during the 2004 elections and 574 districts during the 2009 elections. Our main variable of interest from the candidate affidavits is the criminal background of the winner and runner up candidates in each of the Lok Sabha constituencies. 24.4% of the elected MPs in 2004 and 30.4% of winners in 2009 had at least one criminal case pending against them. The number and seriousness of the criminal cases vary across candidates. The maximum

[10] The Lok Sabha resembles the House of Commons in Britain and is the more powerful, directly elected legislative body in a bicameral legislature.

[11] Each parliamentary constituency could be matched to multiple districts and similarly each district could cover parts of multiple electoral constituencies. For example, during the 2009 elections Pune district in Maharashtra covered parts of the following four Lok Sabha constituencies: Pune, Baramati, Shirur and Maval.

number of pending criminal cases in our sample was 46 against the elected MP (Member of Parliament) in 2009 from Palamu constituency in Jharkhand state. The majority of the elected MPs with criminal backgrounds have less than three criminal cases pending against them. The severity of the cases varies from being very serious criminal cases (Murder, Kidnapping etc.) to relatively minor ones. Given that very few Indian politicians are ever convicted by the courts, we use the presence of a pending case as a noisy proxy for the criminal or corrupt background of the politician. For expositional ease we will refer to these politicians as 'criminal' or 'corrupt'. In our sample, 315 elections (30.8% of all elections) are contested between a criminal and a non-criminal out of which 114 are close elections with a win margin less than or equal to 5% of all votes polled.

In Panel C of Table 1, we categorize the criminal charges against candidates into six broad categories based on the classification methodology used by the National Crime Records Bureau. We list the percentage of criminally-charged candidates that have been charged with at least one crime in the corresponding crime category. As indicated, 64% of the candidates with criminal backgrounds are charged with at least one crime against public order; 55% have at least one criminal charge in the crimes against body category (that includes crimes such as murder and kidnapping), while 15% are charged with an economic crime. We also categorize crimes by whether they are violent (Crimes against Body and Crimes against Women and Children) or non-violent. As indicated, 56% of the criminal candidates have been charged with at least one violent crime. Later, we separately analyze the economic impact of candidates charged with violent crimes and those charged only with non-violent crimes. We also construct a district-level variable (Criminal Index) for the criminal activity of politicians as the proportion of members of parliament from the district that have at least one criminal case pending against them. The criminal index variable varies between 0 (no MPs in the district with criminal background) and 1 (all MPs in the district have criminal background). As shown in Figure 1, the presence of members of parliament with criminal backgrounds is not limited to certain regions or states in the country. Overall, about one third of the districts in India have at least one elected Member of Parliament with a criminal background.

To examine the correlation of a candidate's criminal status with other observable characteristics, we next estimate regression models with either the candidate's criminal status or the number of criminal cases against a candidate as the dependent variable and other candidate characteristics as explanatory variables. The results are presented in Table 1 Panel D. In columns 1 and 2 we estimate a regression model with criminal status as a dependent variable where the dummy variable, CRIMINAL is equal to one if a candidate has at least one pending criminal charge and is zero otherwise. The independent variables include dummy variables for college education, gender, minister rank, general category candidate (some constituencies are reserved for candidates from disadvantaged groups identified as Scheduled Caste and Scheduled Tribes), highly corrupt state (CORRUPT_STATE)[12] and for the 2009 election year. We also include logarithm of the candidate's net assets as an additional explanatory variable. Across both specifications, we find that having a college education, being a woman, belonging to a national party, contesting from a reserved category seat or having a minister rank are negatively correlated with the likelihood of being a criminal candidate. Logarithm of net assets and belonging to a corrupt state are not significantly correlated with the likelihood of being a criminal candidate. In column 2, the coefficient for the dummy variable corresponding to election year 2009 is positive and significant which indicates that the proportion of criminal candidates went up between the election years 2004 and 2009. In column 3, we find similar results if we include the number of criminal cases as a dependent variable.

We get firm-level data from two databases managed by the Center for Monitoring Indian Economy (CMIE). The first database, CMIE Prowess, which is an equivalent of Compustat and CRSP for Indian Firms, provides firm-level accounting variables, stock returns data and ownership structure for both private and publicly traded Indian firms. As shown in Table 2 Panel A, our sample consists of 21,424 firm year observations from fiscal years 2004 to 2013. The median total assets of a firm are 1,495.7 million Indian Rupees (roughly USD 30 mn at an exchange rate of 50 Indian Rupees/1 USD).

[12] CORRUPT_STATE=1 for states that are ranked above median by the state-level corruption index reported in the 2005 Corruption Study by Transparency International India. According to the study, Bihar is reported as the most corrupt state with an index value of 695 and Kerala is rated as the least corrupt with an index value of 240.

We obtain the capital expenditure data for the Indian firms from CMIE CapEx database. It includes the firm name/identifier, project date of announcement, cost, completion date and status of the project. CapEx database includes projects with cost of Indian Rupees 10 million or more announced by Indian firms or government since 1996. CapEx collects this information from publicly available sources, regulatory filings and by directly contacting firms. The summary statistics for the project data is given in Table 2 Panel B. We include projects with minimum cost or capital expenditure of 100 million Rupees (roughly USD 2 million). Our sample includes 3,400 capital expenditure projects announced by publicly-traded private-sector firms and 684 projects announced by the government majority-owned publicly traded firms during the 2004-2014 time period for which the election data is available. The mean cost of the private sector projects is 6,409 million Rupees compared to 23,388 million Rupees for the government owned firms. The average stock return for a 3-day window around project announcement dates is higher for private sector firms (1.4%) compared to only 0.1% for the government owned firms. Around 11% of all private-sector projects in our sample are stalled or abandoned compared to around 5% for the government owned firms. We aggregate the total investment in a district in 5-year periods between the general elections (2004-2009 and 2009-2014) to examine the changes in aggregate district-level capital expenditure. The average total capital expenditure in a 5-year period across all districts in the country is 81,642 million Indian Rupees (USD 1.6 bn) for private-sector firms and 44,128 Indian Rupees (USD 882 mn) for government controlled firms. Much of the capital expenditure in a district (90% for investor-controlled firms and 95% for government-controlled firms) is undertaken by non-local firms, headquartered outside the district.

3. Empirical Results

3.1 Criminal Politicians and Firm Value: Project Announcement Returns

We begin our empirical analysis by examining whether the criminal background of locally elected politicians affects project or capital expenditure announcement returns. Project announcement returns capture the marginal effect of the new capital expenditure decision on firm value or the market's perception of the NPV of the new project as measured on the project announcement date.

We use the market model adjusted cumulative abnormal return for a ±1 day or ±3 day window around the project announcement date to measure the project announcement abnormal returns. To estimate the CAPM model, we use S&P CNX 500 index as a proxy for Indian stock market returns and daily stock returns over last four quarters excluding current quarter to estimate the market beta for each firm at the end of each quarter. We then use the most recent beta estimate and raw stock returns during the project announcement window to estimate the cumulative abnormal returns around each project announcement.

3.1.1 All Projects: Panel Regressions

We estimate pooled panel regressions where the dependent variable is either the market-model adjusted abnormal returns over a 3-day window (CAR(-1,+1)) or a 7-day window (CAR(-3,+3)) around the project announcement date. The results are reported in Table 3. The main independent variable of interest is Criminal Index, our district-level measure of the criminal background of elected Members of Parliament from that district. For projects announced between May 2004 and April 2009, we use the Criminal Index based on May 2004 election results for the district in which the project is located. Similarly, for projects announced between May 2009 and April 2014, we use the Criminal Index of the district from the May 2009 general elections.

In column 1 of Table 3, we include Criminal Index, log of project cost and log of firm market cap as independent variables. We also include the year, state and industry fixed effects as additional control variables. The coefficient corresponding to Criminal Index is negative and statistically significant (t-statistic=2.03). An increase in Criminal Index from 0 to 1 leads to 0.90% lower project announcement returns. In column 2, we include firm fixed effects to capture the effect of changes in Criminal Index and find that the coefficient corresponding to Criminal Index remains similar. In columns 3 and 4, we estimate the regressions separately for LOCAL and NON-LOCAL projects. LOCAL projects are those located in the district where the firm is headquartered, whereas NON-LOCAL projects are outside the district in which the firm is headquartered. It is plausible that the announcement effects are different, since local firms are more likely to be connected to local

politicians. We find the coefficient corresponding to Criminal Index to be insignificant for local firms in Column 3, indicating that the project announcement returns for local project is similar across districts with criminal or non-criminal MPs. On the other hand, in column 4 the coefficient corresponding to the non-local projects is negative and highly significant. Hence, the value of projects announced by non-local firms tends to be negatively affected by the criminal background of elected MPs in the district where the project is located. In column 7, results are similar when we use cumulative abnormal returns over a longer 7-day window (CAR(-3,+3)) as the dependent variable.

We next examine whether the impact of criminal politicians on project announcement returns is affected by overall corruption in the state or industry. In column 5 of Table 3, we include a dummy variable, CORRUPT_STATE =1 if the state where the project is located is one of the Indian states that is ranked above median by the state-level corruption index reported in the 2005 Corruption Study by Transparency International India. The coefficient corresponding to the interaction between CORRUPT_STATE and Criminal Index is negative which indicates that the negative effect of criminal politician is stronger in the more corrupt states. This is suggestive of corrupt politicians having greater ability to extract firm value in more corrupt environments. In column 6, we include the interaction between industry level corruption index and criminal index. We obtain the industry level corruption index from 2014 OECD report on Bribery which reports the percentage of total bribery cases reported in each of the industry groups. Extractive industries are reported to be most corrupt with 19% of all reported Bribery cases whereas Finance and Insurance are the least corrupt industries accounting for only 1% of all reported bribery cases. The interaction between Criminal Index and Industry Corruption Index is positive which indicates that the effect of Criminal Politicians on firm value is stronger in less corrupt industries. The interpretation of this finding is unclear. A possibility is that the Indian government has a greater role in many extractive industries such as coal or iron ore. Hence, unlike in other industries, there may be more of a quid-pro-quo between these firms and corrupt politicians. Both the politician and the firm may have much to gain when, for instance, the firm obtains environmental clearances or mines on public land.

3.1.2 Evidence from Close Elections: Regression Discontinuity Design

There are potential endogeneity concerns about the results in the previous section. For instance, it is difficult to rule out the possibility of unobserved variables or conditions that allow criminal politicians to be elected and also contribute to a poor investment environment for the firms. We address these concerns by turning our attention to close elections. Specifically, we use a regression discontinuity design (RDD) approach and focus on elections in which one of the two highest vote recipients is a criminal and the other is a non-criminal candidate -- and the victory margin between the winner and runner-up is relatively small. To obtain evidence that is interpretable in causal terms, we compare the valuation of projects in districts where a candidate with criminal background just defeats a non-criminal politician in a close election (CRIMINALWIN=1) with the valuation of projects in districts where a non-criminal politician just defeats a criminal politician (CRIMINALWIN=0). We define close-elections as elections where the win margin between the winner and runner up is less than or equal to 3%, 5% or 10% of the overall vote.

We note that there are some conceptual concerns with the application of RD designs (Imbens and Lemieux (2008)). The first concern is that the election outcomes may not be random and candidates could manipulate the outcome in close elections. The primary assumption behind the use of RD design is that in close elections, as in a randomized trial, criminal candidates are randomly assigned to the winner and runner-up groups i.e., the election outcomes for close elections between criminal and non-criminal candidates are completely random, similar to the flip of a coin. If election outcomes are random, there should be no discontinuity or manipulation around the cutoff point of zero vote share difference between criminal and non-criminal candidates.

Figure 2, Panel A presents the distribution of vote share difference between criminal and non-criminal candidates for the 331 elections contested between a criminal and a non-criminal candidate: a positive vote share difference denotes a criminal win and negative vote difference corresponds to a non-criminal candidate victory. The distribution of vote share appears symmetric around the cutoff

point of zero difference. To formally test for the presence of a jump in density of vote share difference at the cutoff point, we use the methodology from McCrary (2008). Figure 2 Panel B presents the smoothed density function of the vote share difference between the criminal and non-criminal candidates. We find that the magnitude of the jump in vote share at the cutoff point is insignificant with a t-statistic of 0.80, which validates the random assignment assumption behind the regression discontinuity design.

We next test the other two crucial assumptions that validate the application of Regression Discontinuity design. One assumption is that other covariates don't change around the cutoff point. We test this assumption by examining the characteristics of criminals that won in a close election to those that lost narrowly. To accurately estimate the effect of a criminal win, the two groups should be similar in every other observable aspect, save for the treatment effect i.e., winning or losing the election. The results are presented in Appendix 1 Panel A. The sample includes the criminal candidates that either won or lost in a close election against a non-criminal candidate with a win margin less than or equal to 5%. We find that the coefficient on Criminal win is insignificant for all specifications. This confirms that criminal candidates that won are similar to the criminal candidates that narrowly lost along the following dimensions: number of crimes, proportion of criminal candidates charged with a serious crime, assets, liabilities, education proportion of criminal candidates from a national party.

Finally, we test for the absence of discontinuity in outcome variables at cutoffs other than vote difference of 0%, we consider +5% and -5% as alternative cutoff points, the outcome variable should be similar around these cutoffs since the criminal status of the winning candidate doesn't change around these cutoffs. In Appendix 1 Panel B we find that, as expected, the outcome variables don't exhibit a significant change around the cutoffs of +5% and -5%. These three tests, taken together, validate use of regression discontinuity design in our analysis and allow us to interpret the effects of a criminal candidate victory in causal terms.

3.1.3 Evidence from Close Elections: Univariate Tests

The univariate results for the close election sample (win margin less than or equal to 5%) are presented in Table 4. Panel A reports the results for the projects announced by publicly-traded investor-owned firms. The 3-day cumulative abnormal announcement return (CAR(-1,+1)) is 0.77% for projects in districts where a criminal narrowly defeated a non-criminal in the most recent general elections, compared to 1.71% for districts where the non-criminal candidate won. The difference of 0.94% is significant with a t-statistic of 2.24.

Next, we consider the projects by local and non-local firms separately. We define LOCAL projects as those in the same district as the firm's headquarter, whereas NON LOCAL projects are outside the headquarter district of the firm. Similar to the prior results, we find that the effect of criminal background of the candidates on project announcement returns is greater for non-local firms compared to the local firms. The difference in announcement returns between districts where the criminal politician narrowly won compared to where he narrowly lost is -1.08% (t-statistic=2.53) for non-local firms and statistically insignificant -0.89% for local firms. On average, local projects appear to be more valuable for private sector firms compared to non-local projects, particularly in districts with elected criminal politicians.

We next examine whether projects are also more likely to be stalled or abandoned in districts with elected criminal politicians. We define a project to be stalled or abandoned if the project status in the CapEx database is one of the following: Abandoned, Announced & Stalled, Implementation Stalled or Shelved. As shown in Table 4 Panel A, 10.43% of announced projects in districts where the criminal candidate won and 8.06% of projects in districts with non-criminal winners are stalled or abandoned. The difference is positive but statistically insignificant. For non-local projects the difference is larger (3.97%), but remains insignificant.

We next examine the project announcement returns and percentage of projects stalled for state-owned firms conditional on the criminal background of the elected politicians. The results are presented in Table 4 Panel B. In striking contrast to private-sector projects, the 3-day project announcement abnormal returns for state-controlled firms are higher (0.91%, t-statistic=2.81) in

districts where the criminal candidate narrowly won (win margin ≤ 5%), compared to districts where the criminal candidate narrowly lost (-0.01%, t-statistic=0.05). The difference is 0.92% and is statistically significant with a t-statistic of 2.15. Similarly, we find that the proportion of such projects that are stalled or abandoned is lower in the districts where the criminal candidate narrowly won (2.86%) compared to the districts where the criminal candidate narrowly lost (10.59%). The difference is -7.73% and is significant at 10 percent level (t-statistic=1.87). The results are similar if we define close elections as those with a win margin less than or equal to 10%.

In Table 4 Panel C, we use the combined sample of state and private sector owned firms to examine the overall effect of criminal politicians on firm value. State-owned firms in the sample are larger than private sector firms and have larger projects, though the number of private sector firms is greater. Consistent with sample composition, we find that the equally-weighted announcement returns for projects where criminal politicians narrowly won is 0.54% (t-statistic=1.56) lower compared to the districts where they narrowly lost. On the other hand, the value weighted abnormal returns announcement returns where the criminal won are 1.02% (t-statistic=4.81) larger than where the criminal narrowly lost. We don't find any difference in the frequency with which projects are stalled or abandoned in districts where the criminal politicians won compared with where they lost. The difference between private-sector and state-owned firms appears to cancel out in the combined sample.

We illustrate the discontinuity or jump in project announcement returns conditional on a criminal win using a bin-scatter plot in Figure 3. Win margin here is defined as the difference in vote share between the criminal and non-criminal candidates, positive win margins indicate a criminal win and negative win margins indicate a non-criminal win. In Panel A, we plot the average 3-day market-model adjusted cumulative adjusted returns in each of the 10 win-margin bins for non-local projects announced by private sector firms. In Panel B, we also include year fixed effects since project returns are likely to be dependent on market conditions. In Panel C, we plot the average project announcement CARs for state-owned firms including year fixed effects. Similar to the earlier results for univariate tests and panel regressions, we find that project announcement returns for private sector firms are lower if

the criminal candidate wins against a non-criminal candidate whereas the opposite holds true for the projects announced by state-owned firms.

3.1.4 Evidence from Close Elections: Multivariate Regressions

In Table 5, we use pooled regressions to examine project announcement returns for close elections. The dependent variable is the three day cumulative market-model adjusted abnormal return (CAR(-1,+1)) around the project announcement date. In multivariate regressions, we control for firm specific variables, along with Industry, State and Year fixed effects. We report the t-statistic obtained from standard errors clustered by district and election year. We also include the logarithm of project cost, logarithm of market cap and win margin as additional control variables. The project announcement returns are likely to be greater for large projects. Panels A and B analyze private-sector firms while state-owned firms are analyzed in Panel C. In columns 1-3 of Table 5 Panel A, close elections are defined to have a win margin less than or equal to 5% of all votes polled. In columns 4 and 5, the cutoff for close elections is 3% and 10% respectively. Column 6 includes all observations. In the first column of Table 5 Panel A, the coefficient corresponding to CRIMINALWIN is negative but insignificant. The difference in returns between projects announced in districts where the criminal candidate narrowly won (margin $\leq$ 5%), compared to the districts where the criminal candidate narrowly lost is -0.60%. We estimate the regressions separately for projects announced by local and non-local firms. The coefficient of CRIMINALWIN for local firms is statistically insignificant. For NON-LOCAL firms, however, the coefficient indicates that the announcement return is 1.1% lower (significant at 10% level) in districts where a criminal candidate narrowly won. The magnitude of the coefficient on CRIMINALWIN is similar for other win margins in columns 4-6.

In columns 1 and 2 of Table 5 Panel B, we include an indicator variable STALL as a dependent variable. STALL is equal to 1 if the project has been stalled or abandoned and 0 otherwise. The coefficient corresponding to STALL is insignificant for projects by the LOCAL firms and is positive (0.043) and significant at 10% level for NON-LOCAL projects (t-statistic=1.73). Hence, 4.3% more non-local projects are stalled or abandoned in districts where a criminal candidate narrowly won the

last general election compared to the districts where the criminal candidate narrowly lost the election. As reported in column 4, completed non-local projects also take 76.2 days longer to complete in districts where criminal candidate won compared to districts where the criminal candidate lost.

In Table 5 Panel C, our sample includes projects announced by state-owned firms. In columns 1-3, we include projects where elections between candidates with criminal and non-criminal backgrounds are decided by a win margin of less than or equal to 5%. In column 1, we include projects by all state-controlled firms, irrespective of the level of state ownership. The coefficient corresponding to CRIMINALWIN is insignificant. In columns 2 and 3 we divide the sample by the level of government ownership. It is likely that the criminal politician is able to exert greater influence on firms with high government ownership whereas firms with low government ownership are likely to be similar to the private-sector firms. In column 2, the coefficient corresponding to CRIMINALWIN is positive and highly significant (t-statistic=2.63). The difference in project announcement returns between the projects announced by state-owned firms with government ownership greater than or equal to 70% in districts where the criminal candidate narrowly won versus just lost is 1.10%. Column 3 indicates that for firms with government ownership less than 70%, the impact of a criminal win is -0.80%. This is in line with the findings for private-sector firms in Table 5 Panel A. In columns 4-6, we use a 10% win margin definition for close elections and obtain similar results.

In columns 1-2 of Table 6, we examine the effect of the overall corruption in the state and industry on the relationship between the criminal background of the elected MPs and project announcement returns. Our sample includes all projects located in districts where the criminal-noncriminal win margin is less than or equal to 5%. To measure the effect of overall corruption in the state, we include a dummy variable, CORRUPT_STATE which is equal to 1 if the state is ranked above median by the 2005 Corruption Study by Transparency International India and 0 otherwise. As in Table 3 above, we use the OECD bribery index as a measure for industry level corruption. In column 1, the interaction between CORRUPT_STATE and CRIMINALWIN is negative and highly

significant with a t-statistic of 4.70. The result indicates that criminal politicians have a more negative impact on private-sector firms in more corrupt states.

In column 2, we include the interaction term between CRIMINALWIN and CORRUPTION_INDEX_INDUSTRY. Similar to results in Table 3, the coefficient corresponding to the interaction term is positive which indicates that the marginal effect of the criminal background of the politician is less negative in extractive industries, that rank high in terms of corruption. An explanation for this, as noted earlier, is that given a greater governmental involvement in extractive industries, there may be more of a quid-pro-quo between firms in these industries and corrupt politicians. For example, both the corrupt politician and the firm may stand to benefit when the firm obtains environmental clearances or mines on public land. In column 3, we find that the interaction term between CRIMINALWIN and a dummy variable that indicates whether the criminal candidate is also an incumbent is statistically insignificant.

In Table 7, we examine the effect of party affiliation at the state or national level on the ability of the criminal politicians to destroy firm value. We use two variables to measure political affiliation. The first indicator variable: OWNPARTY_STATEGOVT is equal to 1 if the state government is from the same party as the elected criminal MP at the time of project announcement and 0 otherwise. Similarly, OWNPARTY_CENTRALGOVT=1 if the elected criminal MP's political party is a part of the central government and 0 otherwise. The hypothesis is that the actions of a criminal politician are likely to be less restrained if his/her party is not in power. In column 1, the coefficient for the interaction between CRIMINALWIN and OWNPARTY_STATEGOVT is positive and significant with a t-statistic of 2.18 and in column 2, the coefficient for the interaction between CRIMINALWIN and OWNPARTY_CENTRALGOVT is also positive and highly significant with a t-statistic of 2.57. These results support the notion that criminal politicians have a more negative impact when their political party is not in power. This is consistent with recent anecdotal cases where MPs from the opposition party stalled industrial projects to create a negative anti-development and anti-growth image

of the state or central government in power.[13] In column 3, we separately focus only on project announcements in districts where the two largest national parties, Bharatiya Janata Party (BJP) and Indian National Congress (INC) directly contest against each other. All other project announcements are included in the regression specification reported in column 4. Comparing the coefficient on CRIMINALWIN in columns 3 and 4 of Table 7, we find that the effect of a criminal win on project announcement returns is similar regardless of whether the criminal MP belongs to a large national party or to a small national/regional party.

3.2 Criminal Politicians: Effect on Investment

We next turn to the question of whether the presence of criminal politicians affects the pattern of corporate investment in that district. If the criminal politicians destroy value for private sector firms, we should expect the firms to react and thus sharply reduce the investment in districts where a criminal politician is elected compared to districts where the criminal politician lost. Investment by state-owned enterprises may, however, follow a different pattern.

3.2.1 Private Sector Investment: Evidence from Close Elections

As above, to establish a causal relation between the presence of politicians with criminal background and corporate investment, we follow a Regression Discontinuity Design (RDD) approach. We compare the total dollar investment in the five years before and after the election in districts in which the criminal candidate narrowly won to those in which the criminal candidate narrowly lost. We present univariate results for private-sector firms in Panel A of Table 8. If the criminal candidate wins in a close election, this leads to a reduction in the 5-year investment level in the district by 38,394.5 million Indian Rupees (roughly 764.9 million USD), compared to 5 years before the election. If the criminal candidate loses in a close election, this leads to an increase in total investment in the district by 28,049.6 million Indian Rupees. The difference in investment growth between the districts in which a criminal narrowly lost versus won is 66,444.1 million Indian rupees (USD 1.33 billion), an economically large effect. Therefore, the election win (loss) of criminal politicians leads to a sharp reduction

[13] Some examples are provided in footnote 10.

(increase) in investment by private sector firms. As shown in the second and third columns of Table 8 Panel A, the reduction in investment when the criminal candidate wins is much larger for non-local firms compared to local firms. This is consistent with the earlier result documenting lower project announcement returns for non-local firms compared to local firms in districts where a criminal candidate wins in a close election.

. The results are similar in Columns 4-6 for an alternative 10% win margin definition for close elections. In Panel B, we examine the changes in investment using pooled regressions with state fixed effects. The results are similar to the univariate results: criminal politicians' win leads to a sharp decrease in investment, much of it by non-local firms. In Figure 4, we present a bin-scatter plot to illustrate the discontinuity or jump in private-sector investment conditional on a criminal candidate win. As shown in Panel A, the private sector investment in a district drops if a criminal candidate wins (denoted by positive win margin) in that district. In Panel B, we also include the state-fixed effects to control for state-wide changes in investment and the results are similar.

In Table 8 Panel C, we examine whether the effect of a criminal candidate win is more negative on district-level investments if the criminal candidate is also an incumbent or if the state in which the district is located is more corrupt in general and if the criminal candidate's political party is not part of the state government or the central government. In column 1, the coefficient of interest is the interaction term between dummy variables corresponding to a criminal win and to whether the candidate is also an incumbent (CRIMINALWIN*CRIMINAL_INCUMBENT). For private sector firms, we find that the coefficient for the interaction term is negative and highly significant with a t-statistic of 2.51, while the coefficient on CRIMINALWIN is insignificant, indicating that the negative effect of the criminal candidate win is largely driven by the incumbent criminal candidates who are likely to be more powerful and have a greater influence on the outcome of the investment projects located in their district. In column 2, the interaction term between CRIMINALWIN and CORRUPT_STATE (dummy variable, equal to 1 if the state is ranked above median by the 2005 Corruption Study by Transparency International India and 0 otherwise) is also negative and significant

(t-statistic=2.21). Therefore, consistent with our earlier results, we find that private-sector firms are also more likely to reduce capital expenditure conditional on a criminal candidate win if the project is located in a corrupt state. In column 3, the coefficient on the interaction between CRIMINALWIN and an indicator variable for whether the criminal candidate's party is in power at the state or national level is insignificant.

3.2.2 Investment by State-Owned Firms: Evidence from Close Elections

In Panel D Table 8, we examine the effect of a criminal politician win on investment by state-owned firms. If the criminal candidate wins in a close election, this leads to an increase in total investment in the district of 21,905.6 million Indian Rupees (roughly 438.1 million USD) in next 5 years compared to the 5 years prior to the election. If the criminal candidate loses in a close election, this leads to a decrease in total investment in the district by 23,216.3 million Indian Rupees. The difference of change in investment between the districts where criminal narrowly won or lost is 45,121.9 million Indian rupees (USD 902.4 million). Therefore, in sharp contrast to private sector firms, the election of criminal politicians leads to a sharp increase in investment by state-owned firms. Hence, corrupt politicians appear to be able to substantially offset the loss in investment by private-sector firms with investment by state-owned enterprises.

In columns 3 and 4, we examine the effect of a criminal win on changes in total capital expenditure in the district including both private and state-owned enterprises. The average change in capital expenditure if the criminal narrowly wins is negative but insignificant (t-statistic=0.75) and change in capital expenditure if the criminal narrowly loses is positive but again insignificant (t-statistic=0.23). The difference is also insignificant with a t-statistic of 0.64. Therefore there does not appear to be a significant decrease in the overall investment level, though there is substitution between private and state-sector investment.

3.3. Election Result Announcement Returns: Evidence from Close Elections

Next, we use the regression discontinuity approach around the election result announcement date to examine the causal effect of election of candidates with criminal background on firm value. The results are presented in Table 9. In Panel A, the dependent variable is the market-model adjusted cumulative abnormal return for a 3-day window around the election result announcement date (CAR(-1,+1)) which captures the change in firm value around the election result announcement. Our sample consists of result announcement dates for the general elections in India held in 2004 and 2009 (May 13, 2004 and May 16, 2009). To determine the firms likely to be economically linked to a district, we estimate a variable PCTPROJECT which is calculated as the percentage of the total cost of the capital expenditure of a given firm in that particular district in last 5 years before the general election. PCTPROJECT is zero for a firm and district pair if a firm has not announced any capital project in that district in past 5 years. Further, we classify a firm as LOCAL or NON-LOCAL based on whether the firm is headquartered in a given district or not. The results are presented in Table 9 Panel A. We focus on three sets of firms: Local Firms with PCTPROJECT=0, Local Firms with PCTPROJECT>0 and non-local firms with PCTPROJECT>0. We should expect the local firms with PCTPROJECT>0 to be most closely connected to the district. In column 1, the coefficient corresponding to CRIMINALWIN is insignificant for local firms with no capital projects in their district in last 5 years. These firms are unaffected by a criminal win.

In column 2, we focus on local firms with non-zero investment in last 5 years. The coefficient corresponding to CRIMINALWIN is negative and highly significant. For these firms, the three-day election result announcement returns indicate that a narrow criminal victory (compared to a narrow loss) results in a loss of 6.30% of total market capitalization. In column 3, the sample includes non-local firms that had invested in last 5 years in a district where a criminal candidate contested against a non-criminal candidate in a close election. For these firms, the win by a criminal politician leads to a loss of 1.70% of total market capitalization. The lower impact on non-local firms is consistent with a lower investment stake in the district, compared to local firms that are headquartered in the district. In column 4, we examine the combined effect on both local and non-local firms with non-zero past

investment in that districts. The average effect of the criminal winning in a close election is -2.40% of market value of the firms. In columns 5 and 6, we show that the effect is robust to alternative definition of close-election based on win margin cutoff of 3% or 10%. In Figure 5, we present a bin-scatter plot to illustrate the discontinuity or jump in election announcement returns conditional on criminal candidate win. Our sample includes the local and non-local firms with non-zero past investment in the districts where a criminal candidate contested against a non-criminal candidate in a close election. We also include industry fixed effects and plot the average election result announcement CAR(-1,+1) in each of the 10 win margin bins, where positive (negative) values of win margin denote a criminal win (loss). As shown in the figure, election announcement returns are lower if a criminal candidate wins: a clear discontinuity can be seen at win margin equal to 0.

In Table 9 Panel B, we examine the effect of candidate, firm and state characteristics on election result announcement returns for firms with past investments in the district. In the first column, we include the interaction between CRIMINALWIN and CRIMINAL_INCUMBENT. As indicated by the negative and significant coefficient, election announcement returns are more negative (positive) on a criminal win (loss) if the criminal politician is also an incumbent. This is consistent with the hypothesis that incumbent criminal candidates are likely to be senior and more influential in their districts and, hence, could affect economic outcomes to a greater extent than non-incumbent candidates. In column 2, we include an interaction between CRIMINALWIN and a dummy variable (OWNPARTY_GOVT), which is equal to 1 if the criminal candidate's political party is part of either the central government or the state government. The coefficient on the interaction term is positive and significant at the 10% level (t-statistic=1.81). Therefore, the effect of a criminal win is less negative when the criminal belongs to a party in power: possibly because the party, to improve its odds of retaining power, curbs the extent to which he expropriates firm value and stalls firms' activities in the district. In column 3, we find that the effect of criminal win on election announcement returns is more negative in the districts located in more corrupt states as proxied by above median score on the

Transparency International corruption index. The criminal politician is expected to be able to extract greater rents in states with a poor law and order situation and widespread corruption.

3.4. Q and ROA Regressions

3.4.1 All Firms: Panel Regressions

In this section, we use Industry-adjusted Tobin's Q as a measure of firm value and industry adjusted Return on Assets (ROA) to measure firm profitability. In Table 10 Panel A, we estimate pooled panel regressions. Our dependent variable is either the industry adjusted-Q (columns 1-3) or the industry adjusted-ROA (columns 4-6). We also include firm fixed effects to capture the changes in criminal index from the 2004 to 2009 general elections. In column 1, the coefficient corresponding to CRIMINAL INDEX is negative and highly significant (t-statistic =2.63), suggesting that the increase in criminal index from 2004 to 2009 leads to decrease in industry-adjusted Q for firm-years following the 2009 election. In column 2, when we use the average number of criminal cases brought against elected MPs in a district as an alternative measure of criminal background. The results are similar. In column 3, we also include an interaction term between CRIMINAL INDEX and percentage of all project announced by the firm in past 5 years in the district where its headquarter is located (PCTPROJECTS). The interaction is negative and highly significant, indicating that the value destroyed due to the election of criminal politicians is higher for the firms with stronger economic ties to the district as measured by the projects announced in the past 5 years. The results are qualitatively similar for ROA regression in columns 4-6. The coefficient corresponding to CRIMINAL INDEX is negative in column 4 but statistically insignificant. The coefficient for criminal cases is negative and significant at 10% level in column 5. The interaction term between CRIMINAL INDEX and PCTPROJECTS is negative in column 6, indicating that profitability of the firms headquartered in a district drops after an increase in criminal index in the district, particularly if the firm has undertaken projects in the district.

3.4.2 Evidence From Close Elections

In Table 10 Panel B, we focus on close elections and follow a difference-in-difference approach to provide additional evidence on the effect of criminal politicians on firm valuation (Tobin's Q) and

profitability (ROA). Our sample includes firm-year observations of firms headquartered in districts where a criminal candidate contests a non-criminal candidate in a close election. CRIMINAL WIN=1 if the criminal candidate won and is 0 otherwise. We define, POST=1 for four fiscal years after the election and POST=0 for four fiscal years before the election. For example, for close elections in year 2009, we include firm years from fiscal year 2006-2013; POST=0 for observations in year 2006-2009 as they are pre-election and POST=1 for observations from 2010-2013. We follow the same procedure to label firm years as pre or post for the close elections in 2004. Therefore, the coefficient on POST variable captures the change in Q or ROA in the four years after the election compared to the four years before the close election. Our main variable of interest is the interaction term between POST and CRIMINALWIN that captures the increase on decrease in Q or ROA conditional on a criminal candidate winning or losing. In columns 1 and 2, the definition for close election is win margin less than or equal to 3%. In column 1, we include industry adjusted Q as the dependent variable. The coefficient corresponding to the interaction between POST and CRIMINAL WIN is negative and significant which shows that a criminal win leads to a drop in valuation of the firm as measured by industry adjusted Q. In column 2, we include industry adjusted ROA as the dependent variable and the result is similar. The average difference in industry adjusted ROA in the four year period before and after a criminal wins against a non-criminal is an economically significant -1.7%. Results are similar in Columns 3-6 for an alternative 5% or 10% win margin definition for close elections.

3.5 Additional Results

3.5.1 Evidence from Asset Increases: An Alternative Measure of Corruption

In this section, we examine the effect of corrupt politicians on economic activity based upon an alternative measure of corruption calculated from the increase in the disclosed net assets (assets-liabilities) of the re-contesting incumbent candidates during their previous term in office. The motivation behind this measure comes from a recent study by Fisman, Schulz and Vig (2014), that finds that the annual growth in net assets of winners is 3% to 5% higher compared to the runner-up candidates: they attribute this winner growth to rent-seeking by elected politicians. According to this

alternative definition, we define a candidate to be corrupt if the increase in their net assets is greater than 200% during the 5-year period when they were in office and non-corrupt if the increase is less than 200%. We use 200% as a cutoff because it gives us a similar proportion of corrupt candidates (around one-third of all candidates) as our previous definition based on pending criminal cases. All our results are robust to using alternative cutoffs e.g., 150% and 250%.

For our tests, we first compare the asset disclosures of the candidates in 2004 and 2009 to determine if a re-contesting candidate is likely to be corrupt or not. We then use this definition of corruption to examine the effect of the election outcome on firm value and on total investments and capital expenditure announcements between 2009 and 2014. Since, by construction, the asset-growth based definition of corruption is available only for the second half of the sample and for incumbent candidates, this reduces the sample considerably.

Next, using this alternative definition we examine the effect of election of corrupt politicians on economic outcomes. Results are presented in Table 11. In Panel A, we report the effect of election of corrupt candidates on total investments in a district. In column 2, for close elections with win margin of 10% or less, we find that the election of corrupt politicians leads to a decrease in investment by 94.66 bn Indian Rupees ($1.89 bn), which is highly significant with a t-statistic of 3.14. The difference between average investments in districts where a corrupt politician won compared to where a corrupt politician lost is -$1.66 bn, which is also significant with a t-statistic of 2.09. In columns 3 and 4, we find a decrease in investment by state-owned firms in districts where a criminal candidate just lost, but the change is not statistically significant. Given the similarity in economic magnitude to our earlier findings, the statistical insignificance is likely due to the much smaller sample size when the asset-growth corruption measure used.

In Panel B, we examine the effect of a corrupt candidate win on project announcement returns and on the likelihood of the project to be stalled. We do not find a significant difference in project announcement returns for the project announcement by private-sector or the state-owned firms. However, we find that the difference in proportion of private sector projects stalled is 4.89% higher in

districts where a corrupt politician just won, compared to where he just lost. The difference is economically significant but statistically insignificant with a t-statistic of 1.45. Finally in Panel C of Table 11, we examine the effect of election of corrupt candidates on the election announcement returns for the firms economically tied to the district. For local firms headquartered in the district, we find that the 3-day cumulative abnormal return around the announcement of election results is -9.18% lower (t-statistic=6.39) when the corrupt candidate wins in a close election compared to districts where the corrupt candidate loses a close election.

Therefore, for the asset-increase based measure of corrupt politicians, we find that the effects are similar in magnitude and sign to the findings based on the criminal background of candidates. However, given the considerably smaller sample the results are noisier and statistically insignificant in some cases.

3.5.2 Violent versus Non-violent Crimes

In this section we examine the implications of the nature of the crime (violent or non-violent) for our results. As discussed earlier, we classify each criminal charge as violent or non-violent based on the categories given in the National Crime Records Bureau annual report on crime. Summary statistics for the categories of criminal charges are in Table 1 Panel C.

We examine which class of crimes (violent or non-violent) have a stronger causal effect on economic activity. While violent crimes such as murder are more serious in nature, they may have a weaker correlation with economic corruption. The results are presented in Table 12. In Panel A we examine the effect of the victory of criminal politicians on aggregate investments in the district. We focus on close elections between criminal and non-criminal candidates and divide the sample into two parts conditional on whether the criminal candidate is charged with at least one violent crime. As we show in column 1, the difference in private investments in a district where a violent criminal just won compared to just lost is -26,075.4 million Indian rupees but is statistically insignificant with a t-statistic of 0.57. For the non-violent crimes, the difference is -86,945.3 million Indian Rupees or -1.7 billion USD and is significant with a t-statistic of 1.99. Hence, the economic impact of non-violent criminal

politicians is much greater than that of politicians charged with violent crimes. For both categories of criminal candidates: violent and non-violent, we find an increase in investment by state owned firms, but the difference is statistically insignificant.

In Table 12 Panel B, we compare the effect of a win by violent and non-violent criminal candidates on project valuation as measured by the project announcement returns. The equally weighted 3-day CAR for a close win by a violent criminal candidate is an insignificant 0.04%. On the other hand, the difference in project announcement returns in districts in which a non-violent criminal politician won versus lost in a close contest is -1.28% and highly significant with a t-statistic of 2.58. Therefore, the election of a non-violent criminal has a stronger causal effect on project valuation compared to the election of a violent criminal. There could be multiple reasons for this. First, non-violent crimes could have a higher correlation with the likelihood of a politician to engage in economic corruption compared to candidates charged with violent crimes. Second, it is possible that districts where candidates charged with violent crimes contest may be different in terms of the law and order, overall crime, strength of judiciary and other institutions. Therefore, the marginal effect of the violent criminal losing may be low, particularly if the criminal candidate can continue to exert influence even after a loss.

In Table 12 Panel C, we examine the effect on firm valuation as measured by election-period announcement returns. We include firms with a non-zero past investment in districts where a criminal candidate contested against a non-criminal candidate in a close election with a win margin less than 5%. Again, we divide the sample into two parts to separately examine the effect of candidates charged only with non-violent crimes and candidates charged with at least one violent crime. We find that the coefficient corresponding to CRIMINALWIN is insignificant for the sample where the criminal candidate is charged with violent crimes. In column 2, we find that the difference in 3-day CARs around election announcement for firms economically tied to districts where a non-violent criminal candidate won versus lost is -3.3% with a t-statistic of 2.71. Therefore, similar to the results for project

announcements, the marginal effect of a criminal candidate victory is stronger for candidates charged only with non-violent crimes.

4. Discussion and Concluding Remarks

In the paper we find that the election of criminal/corrupt politicians negatively affects the value and investment by private-sector corporations. This is likely to negatively impact economic growth and employment opportunities in the districts of corrupt politicians. A question that arises is how corrupt politicians manage to get elected – if they have large negative effects on their districts? Our findings suggest that corrupt politicians may be especially adept at bringing in investments by state-controlled corporations. The magnitude of investments by state owned enterprises appears to largely offset the decrease in investment by private-sector firms. Hence, corrupt politicians seem to 'bring home the bacon', at least in terms of investment by firms that largely owned by the government (more than 70% government ownership). It is plausible that corrupt politicians use their clout to benefit their supporters in terms of employment and purchases. This shift from private investment to state-sector investment is often associated with corruption in other countries as well (e.g., Nguyen et al. (2012)).

Private-sector firms with headquarters and investment projects in the district are especially vulnerable to the election of corrupt politicians. Rather than supporting local firms, corrupt politicians appear to extract more value from local firms. An interesting finding is that politicians – as we might expect – are rational actors in terms of deciding on the level of their corruption. Corrupt politicians appear to be less destructive of value when their party is in power. This suggests that the major parties may have some ability to curb corruption in order to convey a 'cleaner' image and to maintain their political power. Politicians that do not belong to a party in power and have been charged with 'non-violent' crimes that are the most pernicious in terms of economic damage.

Evidence indicates that actions such as disclosures, monitoring and punishments can reduce corruption.[14] Our paper suggests that reducing political players access to favors from state-owned enterprises could help in corrupt countries with state-owned corporations. Our finding is that politicians appear to exercise less power over firms in which the state owns less than 70% of the equity -- suggesting that one solution to corruption may be to push for privatization as rapidly as the political process will allow. Reducing the extent to which state-controlled enterprises allow corrupt politicians to keep their supporters satisfied could lead to corrupt politicians losing elections (or reforming).

[14] For instance, Banerjee et al (2010)) find that public disclosures about politicians' performance and qualifications can influence electoral accountability. can reduce corruption as well. Studies indicate that punishment and monitoring can curb corruption (e.g., Fisman and Miguel (2007) and Di Tella and Schargrodsky (2003)).

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Table 1 Summary Statistics: Parliamentary Elections

Panel A and Panel B report the summary statistics for the election outcomes and characteristics for the winner and runner-up candidates. In Panel C, we list the percentage of candidates with criminal background who have been charged with at least one crime in the corresponding crime category. We further classify the Crimes against Body and Crimes against Women and Children as violent crimes, rest of the crimes are categorized as non-violent crimes. Panel D presents results from regressions with either candidate's criminal status or number of pending criminal cases as a dependent variable and following independent variables: logarithm of net assets, dummy variables for college, education, gender, minister rank, general category candidate, corrupt state and for 2009 election year. 1%, 5% and 10% significance levels are indicated with ***, ** and * respectively.

Panel A

	2004	2009	All Elections
Number of Elections	517	506	1023
Number of Administrative Districts	569	574	1143
% of Criminal Winners	24.4%	30.4%	27.4%
% of Criminal Second Positions	20.3%	28.9%	24.5%
% of Election contested between Criminal and Non-Criminal	27.1%	34.6%	30.8%
% of Districts with Criminal Winner	32.2%	35.0%	33.6%
Mean Win Margin	12.2%	9.6%	10.9%

Panel B

	N	Mean	St.Dev	Min	Median	Max
Criminal_Index	1143	0.24	0.38	0.00	0.00	1.00
Criminal_Win	315	0.50	0.50	0.00	1.00	1.00
Criminal_Win (WinMargin<=5%)	114	0.49	0.50	0.00	0.00	1.00
WinMargin	1023	10.92%	9.80%	0.04%	8.40%	70.06%
Number of Criminal Cases_Winner	1023	0.97	3.24	0.00	0.00	46.00
Net_Assets_Winner (Million Indian Rupees)	1015	34.54	105.73	-66.27	7.24	1737.51
Number of Criminal Cases_Second	947	0.74	2.14	0.00	0.00	27.00
Net_Assets_Second (Million Indian Rupees)	934	33.49	222.83	-6.84	6.76	6317.63

Panel C

Crime_Category	Percentage of Candidates
Crimes Against Body	55%
Crimes Against Property	18%
Crimes Against Public Order	64%
Crimes Against Women and Children	2%
Economic Crimes	15%
Other (unspecified) crimes	94%
Violent Crimes	56%

Panel D

	Dependent Variable		
		CRIMINAL	CRIMINAL_CASES
Independent Variable	1	2	3
INTERCEPT	0.165	0.215**	1.788**
	(1.59)	(2.06)	(2.40)
COLLEGE_EDUCATION	-0.086***	-0.084***	-0.868***
	(3.38)	(3.33)	(3.93)
SEX	-0.076**	-0.074**	-0.405***
	(2.37)	(2.31)	(3.13)
LOG(NET_ASSETS)	0.010	0.005	-0.019
	(1.58)	(0.68)	(0.45)
MINISTER	-0.093**	-0.088**	-0.193
	(2.34)	(2.19)	(1.03)
CORRUPT_STATE	-0.026	-0.026	-0.273**
	(1.24)	(1.28)	(2.15)
NATIONAL_PARTY	-0.065***	-0.064***	-0.516***
	(2.91)	(2.90)	(3.31)
PC_GENERAL	0.100***	0.108***	0.569***
	(4.38)	(4.72)	(4.56)
ELECTIONYEAR_2009		0.064***	0.209
		(3.05)	(1.53)
R-Square	0.030	0.035	0.038
N	1877	1877	1877

Table 2 Summary Statistics: Firm and Project Variables

Panel A reports the summary statistics for the firms in our sample. The variables are calculated using the information in the most recent annual financial statements. ROA refers to the return on assets, Q refers to Tobin's Q. Panel B presents the summary statistics for the capital expenditure projects announced by the firms in our sample. We use the market model adjusted cumulative abnormal returns for a ±1 day or ±3 day window around the project announcement date to measure the project announcement CAR (cumulative abnormal return).

Panel A

	N	Mean	St.Dev	Min	Median	Max
ROA	21424	0.032	0.097	-1.172	0.030	0.629
Q	21436	1.35	1.09	0.18	1.03	17.62
Market Cap	21436	17810.8	119945.4	1.3	543.2	4168660.0
Sales	19607	12111.6	101296.9	0.0	1222.8	4800000.0
Assets	21436	35557.3	291372.3	100.1	1495.7	15689489.6

Panel B

	N	Mean	St.Dev	Min	Median	Max
			Private-Sector Firms			
Project Cost (million Indian Rupees)	3400	6409.21	25101.5	100	1120	431490
Project CAR (-1,+1)	3192	1.4%	6.3%	-19.0%	0.5%	57.2%
Project CAR(-3,+3)	3192	1.9%	9.2%	-30.2%	0.8%	81.6%
Stalled	3400	0.11	0.32	0.00	0.00	1.00
Time to Completion (Days)	1951	747	498	7	640	3375
Total Investment_District	934	81642	189794	0	11690	1646126
Local Invesment_District	934	8667	52802	0	0	755330
Non Local Investment_District	934	72974	164234	0	10462	1304175
			State-Owned Firms			
Project Cost (million Indian Rupees)	684	23387.5	44280.2	100.0	5204.8	450000.0
Project CAR (-1,+1)	677	0.1%	3.8%	-17.3%	0.1%	29.7%
Project CAR(-3,+3)	677	0.4%	5.7%	-23.4%	0.0%	26.1%
Stalled	684	0.05	0.22	0.00	0.00	1.00
Time to Completion (Days)	247	1115	594	59	1065	2883
State Ownership	680	73.2%	16.9%	14.0%	80.4%	99.5%
Total Investment_District	805	44128	104402	0	5262	1208036
Local Invesment_District	805	2142	169801	0	0	338500
Non Local Investment_District	805	41986	100762	0	4635	1208036

Table 3 Criminal Politicians and Firm Value: Evidence from Project Announcement Returns

Panel A presents estimates from regressions where the dependent variable is either the market-model adjusted cumulative abnormal return for a 3-day window (CAR(-1,+1)) or a 7-day window (CAR(-3,+3) around the project announcement date. The independent variables include CRIMINAL_INDEX, logarithm of project cost and logarithm of the market cap of the firm measured at the end of the previous month. CRIMINAL_INDEX is measured as the proportion of elected Members of Parliament in a district with at least one outstanding criminal case. In Panel B, we include interaction terms between the CRIMINAL_INDEX and one of the following variables as additional explanatory variables: dummy variable for a Corrupt state which is equal to 1 if the state where the project is located is one of the Indian states that is ranked above median by the state-level corruption index reported in the 2005 Corruption Study by Transparency International India and 0 otherwise. Industry-level corruption index from 2014 OECD report on Bribery. We also include year, state, industry and firm-fixed effects. The t-statistics (reported in parentheses) are based on standard errors clustered at the level. 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A

	Dependent Variable						
	Market Model Adjusted CAR(-1,+1)						Market Model Adjusted CAR(-3,+3)
Independent Variable			LOCAL	NON-LOCAL			
	1	2	3	4	5	6	7
INTERCEPT	0.019	0.084*	-0.119***	0.033**	0.017	-0.005	0.062
	(0.82)	(1.84)	(3.48)	(2.28)	(0.72)	(0.15)	(0.77)
CRIMINAL_INDEX	-0.009**	-0.009*	-0.002	-0.010**	-0.002	-0.036**	-0.017***
	(2.03)	(1.82)	(0.15)	(2.15)	(0.39)	(2.17)	(3.03)
CRIMINAL_INDEX*CORRUPT_STATE					-0.020**		
					(2.43)		
CRIMINAL_INDEX*CORRUPTION_INDEX_INDUSTRY						0.366*	
						(1.90)	
CORRUPT_STATE					-0.008		
					(1.42)		
CORRUPTION_INDEX_INDUSTRY						3.837	
						(2.42)	
LOG(COST)	0.001	0.001	0.003	0.000	0.001	0.001	0.000
	(0.51)	(0.66)	(0.58)	(0.15)	(0.49)	(0.55)	(0.03)
LOG(MCAP)	-0.004***	-0.014***	-0.006**	-0.003***	-0.004***	-0.004***	-0.005***
	(5.23)	(2.87)	(2.38)	(4.80)	(5.21)	(5.37)	(4.92)

R-Square	0.064	0.442	0.152	0.077	0.066	0.067	0.072
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	No	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	No	Yes	Yes	Yes	No	Yes
Firm Fixed Effects	No	Yes	No	No	No	No	No
N	3188	3188	636	2552	3188	3188	3188

Table 4 Criminal Politicians and Project Announcements Returns: Evidence from Close Elections

This table reports the 3-day market-model adjusted project announcement cumulative abnormal returns (CAR(-1,+1)) and percentage of the projects stalled for capital expenditure projects announced in districts where a criminal candidate narrowly defeated or lost to a non-criminal candidate by a margin of less than or equal to 5% of total votes in the most recent general election. We also report the statistical significance of the difference in returns or proportion of projects stalled for the two groups. Panel A reports the results for the investor-owned publicly-traded firms whereas Panel B reports the results for the state-owned publicly-traded firms. Panel C presents the results for all firms. The t-statistics are reported in parentheses and 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A Private Sector Firms

WINMARGIN<=5%	CAR(-1,+1)			% STALL		
	All	NON_LOCAL	LOCAL	All	NON_LOCAL	LOCAL
	1	2	3	4	5	6
CRIMINALWIN=0	1.71***	1.52***	2.49***	8.06***	8.00***	8.33**
	(5.66)	(5.07)	(2.69)	(5.21)	(4.65)	(2.32)
CRIMINALWIN=1	0.77***	0.44	1.60**	10.43***	11.97***	6.52**
	(2.65)	(1.48)	(2.33)	(6.15)	(5.63)	(2.52)
DIFF	-0.94**	-1.08**	-0.89	2.37	3.97	-1.81
	(-2.24)	(2.53)	(0.79)	(1.03)	(1.46)	(0.42)

Panel B State-Owned Firms

	CAR(-1,+1)		% Stall	
	WINMARGIN<=5%	WINMARGIN<=10%	WINMARGIN<=5%	WINMARGIN<=10%
	1	2	3	4
CRIMINALWIN=0	-0.01	-0.05	10.59***	9.93***
	(0.05)	(0.20)	(3.15)	(4.07)
CRIMINALWIN=1	0.91***	0.75***	2.86	4.92**
	(2.81)	(3.22)	(1.42)	(2.50)
DIFF	0.92***	0.80**	-7.73*	-5.01
	(2.15)	(2.29)	(1.87)	(1.55)

Panel C All Firms

	Equally-weighted CAR(-1,+1)		Value-weighted CAR(-1,+1)		% Stall	
			WINMARGIN			
	<=5%	<=10%	<=5%	<=10%	<=5%	<=10%
	1	2	3	4	5	6
CRIMINALWIN=0	1.34***	1.31***	0.30**	0.57***	8.61***	9.14***
	(5.41)	(6.86)	(2.09)	(4.53)	(6.09)	(8.45)
CRIMINALWIN=1	0.80***	0.79***	1.32***	1.12***	9.09***	9.17***
	(3.26)	(3.92)	(8.47)	(9.44)	(6.28)	(7.85)
DIFF	-0.54	-0.52*	1.02***	0.55***	0.48	0.03
	(1.56)	(1.88)	(4.81)	(3.12)	(0.24)	(0.01)

Table 5 Criminal Politicians and Project Announcements Returns: Regression Evidence from Close Elections

Panel A presents estimates from regressions where the dependent variable is the market-model adjusted abnormal return for a 3-day window (CAR(-1,+1)) around the project announcement date. The independent variables includes a dummy variable (CRIMINALWIN) which is equal to 1 if a criminal candidate defeats a non-criminal candidate in close election with a win margin of less than or equal to 3%, 5% or 10% and 0 otherwise. Logarithms of project cost and firm's market cap are included as additional control variables. We also report results for all win margins and separately for projects announced by local and non-local firms. In Panel B we include the dummy variable if the project is stalled and project's time to completion as dependent variables. The independent variables are the same as in Panel A. Panels A and B present results for investor-owned firms whereas Panel C reports the results for the state-owned firms. All regression specifications in the table include state and year fixed effects. The t-statistics (reported in parentheses) are based on standard errors clustered by district and election year. 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A Investor-Owned Firms

	Dependent Variable: Market Model-Adjusted CAR (-1,+1)					
	WINMARGIN<=5%			WINMARGIN <=3%	WINMARGIN <=10%	ALL WINMARGINS
Independent Variable	All	LOCAL	NON-LOCAL	NON-LOCAL	NON-LOCAL	NON-LOCAL
	1	2	3	4	5	6
INTERCEPT	-0.042	-0.020	0.011	-0.013	0.018	-0.003
	(1.58)	(0.28)	(0.40)	(0.42)	(1.01)	(0.23)
CRIMINALWIN	-0.006	0.008	-0.011*	-0.010	-0.010***	-0.007**
	(1.26)	(0.57)	(1.93)	(1.40)	(2.72)	(2.44)
LOG(COST)	0.000	-0.004	0.002	0.004	-0.001	0.002
	(0.03)	(0.44)	(0.94)	(1.31)	(0.38)	(1.35)
LOG(MCAP)	-0.003*	-0.009*	-0.002	-0.003	-0.001	-0.002**
	(1.80)	(1.94)	(1.34)	(1.50)	(0.87)	(2.40)
WIN_MARGIN	0.036	0.392	0.129	0.525	0.051	0.014
	(0.21)	(0.56)	(0.66)	(1.09)	(0.97)	(1.09)
R-Square (%)	13.16	29.6	18.1	28.16	14.4	11.04
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes	Yes	Yes
N	614	148	466	316	770	1474

Panel B Investor-Owned Firms

	Dependent Variable: STALL WINMARGIN<=5%		Dependent Variable: TIME_TO_COMPLETION WINMARGIN<=5%	
Independent Variable	LOCAL	NON-LOCAL	LOCAL	NON-LOCAL
	1	2	3	4
INTERCEPT	1.152***	-0.226	-1271.4*	341.7
	(3.67)	(1.48)	(1.81)	(0.85)
CRIMINALWIN	0.005	0.043*	-29.3	76.2
	(0.09)	(1.73)	(0.33)	(1.22)
LOG(COST)	0.002	0.019	224.5***	185.2***
	(0.10)	(1.27)	(5.31)	(6.65)
LOG(MCAP)	0.001	-0.023***	11.5	-47.3**
	(0.05)	(2.75)	(0.25)	(1.99)
WIN_MARGIN	-3.497	1.255	3308.4	139.4
	(1.57)	(0.91)	(0.59)	(0.04)
R-Square (%)	42.0	24.8	63.1	45.5
Industry Fixed Effects	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes
N	152	481	89	246

Panel C State-Owned Firms

	Dependent Variable: Market Model-Adjusted CAR (-1,+1)					
	WINMARGIN<=5%			WINMARGIN<=10%		
Independent Variable	All	GOVT OWN>=70 %	GOVT OWN<70%	All	GOVT OWN>=70 %	GOVT OWN<70 %
	1	2	3	4	5	6
INTERCEPT	-0.026	-0.154**	0.081	-0.053	0.098*	-0.038
	(0.44)	(2.17)	(1.11)	(1.14)	(1.72)	(0.72)
CRIMINALWIN	0.001	0.011***	-0.008	0.007**	0.010***	-0.003
	(0.31)	(2.63)	(1.13)	(2.51)	(2.69)	(0.84)
LOG(COST)	0.006***	0.004*	0.008***	0.004***	0.004***	0.008***
	(4.69)	(1.76)	(3.98)	(3.44)	(2.65)	(4.60)
LOG(MCAP)	-0.002	0.008	-0.011**	0.000	0.001	-0.004
	(0.57)	(1.34)	(2.07)	(0.08)	(0.09)	(1.00)
WIN_MARGIN	0.269	0.753***	-0.479	-0.023	0.007	0.020
	(1.34)	(3.03)	(1.31)	(0.51)	(0.11)	(0.44)
R-Square (%)	46.34	75.0	68.7	34.84	52.4	67.23
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes	Yes	Yes
N	154	86	68	272	160	112

Table 6 Project Announcement Returns: Further Regression Evidence from Close Elections
This tables presents estimates from regressions where the dependent variable is the market-model adjusted abnormal return for a 3-day window (CAR(-1,+1)) around the project announcement date. The independent variables include CRIMINALWIN, logarithm of project cost and logarithm of the market cap of the firm measured at the end of the previous month. CRIMINALWIN is a dummy variable which is equal to 1 if a criminal candidate defeats a non-criminal candidate in close election with a win margin of less than or equal to 5%and is 0 otherwise. Further, we include interaction terms between the CRIMINALWIN and one of the following variables as additional explanatory variables: CORRUPT_STATE (dummy variable which is equal to 1 for states with above median value of corruption index in 2005 Corruption study by Transparency International), CORRUPTION_INDEX_INDUSTRY (Industry-level corruption index from 2014 OECD report on Bribery) and dummy variable which is equal to 1 if the criminal candidate is also an incumbent member of parliament (CRIMINAL_INCUMBENT). We also include the year, state and industry fixed effects. The t-statistics (reported in parentheses) are based on standard errors clustered by district and election year. 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

	Dependent Variable: Market Model-Adjusted CAR (-1,+1)		
	WINMARGIN<=5%		
Independent Variable	NON-LOCAL	NON-LOCAL	NON_LOCAL
	1	2	3
INTERCEPT	-0.010	0.065*	0.011
	(0.37)	(1.85)	(0.41)
CRIMINALWIN	0.001	-0.030*	-0.011*
	(0.20)	(1.75)	(1.86)
CRIMINALWIN*CORRUPT_STATE	-0.034***		
	(4.70)		
CRIMINALWIN*CORRUPTION_INDEX_INDUSTRY		0.252	
		(1.34)	
CRIMINALWIN*CRIMINAL_INCUMBENT			0.001
			(0.08)
CORRUPT_STATE	-0.004		
	(0.22)		
CORRUPTION_INDEX_INDUSTRY		-0.633**	
		(2.03)	
CRIMINAL_INCUMBENT			0.003
			(0.39)
LOG(COST)	0.002	0.002	0.002
	(1.16)	(0.87)	(0.98)
LOG(MCAP)	-0.002	-0.003	-0.002
	(1.16)	(1.51)	(1.31)
WIN_MARGIN	0.256		0.119
	(1.33)		(0.61)
R-Square (%)	20.0	18.7	18.23
Industry Fixed Effects	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes
N	466	466	466

Table 7 Political Party Affiliation and Project Announcement Returns

This table reports estimates from regressions where the dependent variable is the market-model adjusted abnormal return for a 3-day window (CAR(-1,+1)) around the project announcement date. The independent variables include CRIMINALWIN, logarithm of project cost and logarithm of the market cap of the firm measured at the end of the previous month. CRIMINALWIN is a dummy variable which is equal to 1 if a criminal candidate defeats a non-criminal candidate in close election with a win margin of less than or equal to 5%and is 0 otherwise. Further, we include interaction terms between the CRIMINALWIN and one of the following variables that measure whether the state government or central government are favorable to the criminal politician: the first indicator variable, OWNPARTY_STATEGOVT is equal to 1 if the state government is from the same party as the elected criminal politician at the time of project announcement and 0 otherwise. Similarly, OWNPARTY_CENTRALGOVT is equal to 1 if the elected criminal politician's party is a part of the central government and 0 otherwise. We also include the year, state and industry fixed effects. The t-statistics (reported in parentheses) are based on standard errors clustered by district and election year. 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

	Dependent Variable: Market Model-Adjusted CAR (-1,+1)			
		WINMARGIN<=5%		
Independent Variable	NON-LOCAL	NON-LOCAL	NATIONAL_ PARTIES NON-LOCAL	OTHERS NON-LOCAL
	1	2	3	4
INTERCEPT	0.016	0.009	0.0146	-0.006
	(0.63)	(0.34)	(0.49)	(0.12)
CRIMINALWIN	-0.019***	-0.022***	-0.0121*	-0.013
	(3.00)	(3.05)	(1.80)	(1.41)
CRIMINALWIN*OWNPARTY_STATEGOVT	0.018**			
	(2.18)			
CRIMINALWIN*OWNPARTY_CENTRALGOVT		0.024**		
		(2.57)		
OWNPARTY_STATEGOVT	-0.017***			
	(2.72)			
OWNPARTY_CENTRALGOVT		-0.007		
		(1.08)		
LOG(COST)	0.002	0.002	-0.0005	0.005
	(1.01)	(1.08)	(0.15)	(1.66)
LOG(MCAP)	-0.002	-0.002	0.0004	-0.004
	(1.02)	(1.21)	(0.21)	(1.27)
WIN_MARGIN	0.088	0.166	-0.5312*	0.555
	(0.45)	(0.84)	(1.93)	(1.38)
R-Square (%)	19.61	19.7	30.7	21.0
Industry Fixed Effects	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes
N	502	502	256	210

Table 8 Criminal Politicians and Aggregate Investments around Close Elections

This table reports the differences in total dollar investments between the next five years after the election and the investment in previous five years in the same district for the districts where the criminal candidate narrowly won (CRIMINALWIN=1) to the districts where the criminal candidate narrowly lost (CRIMINALWIN=0). Panel A presents the univariate results for investor owned publicly-traded firms. In Panel B, the dependent variable is one of the following: Change in total project cost for all, local or non-local firms investing in the district. We focus on investor-owned firms and include the districts where a criminal candidate contested against a non-criminal candidate and the outcome was determined in a close election with win margin of either less than or equal to 5% or 10% of all voted polled. The main dependent variable is CRIMINALWIN and we also include the state fixed effects. In Panel C we examine the changes in investment for investor-owned and state-owned firms and also include an interaction between CRIMINALWIN and either one of the following variables: CRIMINAL_INCUMBENT which is equal to one if the criminal candidate is also an incumbent member of parliament, OWNPARTY_GOVT is equal to 1 if either the state or central government is from the same party as the elected criminal politician at the time of project announcement and 0 otherwise, CORRUPT_STATE (dummy variable which is equal to 1 for states with above median value of corruption index in 2005 Corruption study by Transparency International). In Panel D, we present the univariate results for change in investments by state-owned firms and for all firms. 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A

	WINMARGIN<=5%			WINMARGIN<=10%		
Independent Variable	ChangeTotal Project Cost	Change Local Project Cost	Change Non-Local Project Cost	ChangeTotal Project Cost	Change Local Project Cost	Change Non-Local Project Cost
	1	2	3	4	5	6
CRIMINALWIN=0	28049.6	8857.1	19192.5	13044.3	7087.0*	5957.3
	(1.33)	(1.41)	(0.97)	(0.77)	(1.81)	(0.37)
CRIMINALWIN=1	-38394.5	-938.1	-37456.4*	-39121.3**	1502.5	-40623.8**
	(1.63)	(0.34)	(1.67)	(2.12)	(0.34)	(2.37)
DIFF	-66444.1**	-9795.2	-56648.9*	-52165.6**	-5584.5	-46581.1**
	(2.11)	(1.39)	(1.90)	(2.08)	(0.95)	(1.97)

Panel B

	Dependent Variable			
	WINMARGIN<=5%			WINMARGIN<=10%
Independent Variable	ChangeTotal Project Cost	Change Local Project Cost	Change Non-Local Project Cost	ChangeTotal Project Cost
	1	2	3	4
INTERCEPT	-190869.5	9806.0	-200675.5	-175313.0
	(1.38)	(1.29)	(1.49)	(1.27)
CRIMINALWIN	-93006.5**	-20195.3	-72811.1*	-68243.1**
	(2.16)	(1.61)	(1.81)	(2.26)
R-Square (%)	11.81	13.0	10.6	9.59
State Fixed Effects	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes
N	164	164	164	275

Panel C

Independent Variable	Investor-owned Firms WINMARGIN<=5% Dependent Variable: ChangeTotal Project Cost		
	1	2	3
INTERCEPT	-220616.3*	-226272.6*	-208530.9
	(1.73)	(1.81)	(1.61)
CRIMINALWIN	-33512.9	-22200.3	-76116.1*
	(0.84)	(0.47)	(1.77)
CRIMINALWIN*CRIMINAL_INCUMBENT	-284929.6**		
	(2.51)		
CRIMINALWIN*CORRUPT_STATE		-214722**	
		(2.21)	
CRIMINALWIN*OWNPARTY_GOVT			-38187.6
			(0.60)
CRIMINAL_INCUMBENT	150261.0***		
	(2.76)		
CORRUPT_STATE		313283.5**	
		(2.33)	
OWNPARTY_GOVT			65836.3
			(1.17)
R-Square (%)	19.46	16.4	14.76
State Fixed Effects	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes
N	164	164	193

Panel D

	State Owned Firms		All Firms	
	WINMARGIN<=5%	WINMARGIN<=10%	WINMARGIN<=5%	WINMARGIN<=10%
Independent Variable	ChangeTotal Project Cost	ChangeTotal Project Cost	ChangeTotal Project Cost	ChangeTotal Project Cost
	1	2	3	4
CRIMINALWIN=0	-23216.3	-271.0	6664.2	11681.1
	(0.99)	(0.02)	(0.23)	(0.55)
CRIMINALWIN=1	21905.6**	23538.5**	-16793.9	-15921.1
	(2.03)	(2.40)	(0.75)	(0.89)
DIFF	45121.9*	23809.5	-23458.1	-27602.2
	(1.70)	(1.28)	(0.64)	(0.98)

Table 9 Criminal Politicians and Firm Value: Returns around Election Result Announcement

This table presents estimates from regressions where the dependent variable is the market-model adjusted abnormal return for a 3-day window (CAR(-1,+1)) around the election result announcement date. In Panel A, the main independent variable is a dummy variable (CRIMINALWIN) which is equal to 1 if a criminal candidate defeats a non-criminal candidate in close election with a win margin of less than or equal to 3%, 5% or 10% and is 0 if the criminal candidate loses to a non-criminal candidate in a close election. Logarithms of project cost and firm's market cap are included as additional control variables. We also report results separately for local and non-local firms. PCTPROJECT measure the strength of economic linkages of a firm to a given districts and is calculated as the percentage of the total cost of the capital expenditure of a given firm in that particular district in last 5 years before the general election. In Panel B, we include interaction terms between the CRIMINALWIN and one of the following variables as additional explanatory variables: CORRUPT_STATE (dummy variable which is equal to 1 for states with above median value of corruption index in 2005 Corruption study by Transparency International), Industry-level corruption index from 2014 OECD report on Bribery, dummy variables which are equal to 1 if the criminal candidate is also an incumbent member of parliament or belongs to a political party which is part of the government at the same state or at the center. All regression specifications in the table include state and year fixed effects. The t-statistics (reported in parentheses) are based on standard errors clustered by district and election year. 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A

	Dependent Variable: Market Model-Adjusted CAR (-1,+1)					
	WINMARGIN<=5%			WINMARGIN<=3%		WINMARGIN<=10%
	PCTPROJECT=0	PCTPROJECT>0				
Independent Variable	Local Firms	Local Firms	Non-Local Firms	All Firms	All Firms	All Firms
	1	2	3	4	5	6
INTERCEPT	0.101***	0.311***	-0.102***	-0.085***	0.053	-0.061***
	(3.80)	(2.64)	(2.77)	(2.74)	(0.70)	(2.61)
CRIMINALWIN	0.0002	-0.063**	-0.017**	-0.024**	-0.039***	-0.016**
	(0.01)	(2.09)	(2.08)	(2.49)	(3.49)	(2.13)
WINMARGIN	-0.633	-1.007	-0.282	-0.098	-0.684	-0.050
	(0.93)	(0.48)	(0.80)	(0.27)	(0.70)	(0.41)
LOG(MCAP)	-0.008***	-0.006	0.005	0.001	0.0001	-0.0002
	(3.99)	(1.42)	(1.52)	(0.24)	(0.02)	(0.10)
R-Square	0.14	0.47	0.39	0.32	0.39	0.29
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes	Yes	Yes
N	603	86	346	432	205	708

Panel B

	Dependent Variable: Market Model-Adjusted CAR (-1,+1)			
	WINMARGIN<=5%			
	All Firms with PCTPROJECT>0			
Independent Variable	1	2	3	4
INTERCEPT	-0.104***	-0.079***	-0.088**	-0.028
	(2.90)	(2.87)	(2.84)	(0.81)
CRIMINALWIN	-0.012	-0.056**	-0.018***	-0.030
	(1.22)	(2.33)	(1.50)	(1.33)
WINMARGIN	-0.067	-0.009	-0.091	-0.102
	(0.19)	(0.02)	(0.25)	(0.29)
LOG(MCAP)	0.001	0.000	0.001	0.001
	(0.57)	(0.21)	(0.36)	(0.23)
CRIMINALWIN*CRIMINAL_INCUMBENT	-0.040**			
	(2.11)			
CRIMINALWIN*OWNPARTY_GOVT		0.045*		
		(1.81)		
CRIMINALWIN*CORRUPT_STATE			-0.014	
			(0.73)	
CRIMINALWIN*CORRUPTION_INDEX_INDUSTRY				0.092
				(0.27)
CRIMINAL_INCUMBENT	0.030**			
	(2.33)			
OWNPARTY_GOVT		-0.044*		
		(1.89)		
CORRUPT_STATE			0.020	
			(0.80)	
CORRUPTION_INDEX_INDUSTRY				-5.625
				(1.53)

R-Square	32.46	38.82	31.76	31.68
State Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes
N	432	557	432	432

Table 10 Election of Criminal Politicians: Effects on Firm Value and Profitability

This table presents results from pooled-panel regressions where the dependent variable is either the firm's industry-adjusted Tobin's Q or the industry adjusted return on assets In Panel A, the sample includes yearly observations from fiscal year 2005 to fiscal year 2013 for all Indian firms with assets greater than or equal to 100 million Indian Rupees. The main independent variable is CRIMINAL_INDEX which measure the proportion of elected members of parliament in a district that have a criminal background. All specifications include firm-fixed effects. We also include the interaction between Criminal Index and PCTPROJECTS, which is calculated as the percentage of the cost of all projects announced by the firm in past 5 years in the district where its headquarter is located. In Panel B, we focus on close elections and present the results using a difference-in-difference approach. Our sample includes firm-year observations for the firms headquartered in districts where a candidate with criminal background contested against a candidate with non-criminal background in a close election, CRIMINALWIN=1 if the criminal candidate won and 0 otherwise. We define, POST=1 for four fiscal years after the election and POST=0 for four fiscal years before the election. The t-statistics are reported in parentheses and 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A

Independent Variable	Q	Q	Q	ROA	ROA	ROA
	1	2	3	4	5	6
CRIMINAL_INDEX	-0.067***		-0.043	-0.001		0.0000
	(2.63)		(1.60)	(0.45)		(0.01)
LOG(1+CRIMINAL_CASES)		-0.040**			-0.004*	
		(2.01)			(1.69)	
CRIMINAL_INDEX*PCTPROJECTS			-0.222***			-0.0085
			(2.74)			(0.90)
PCTPROJECTS			0.031			-0.0103**
			(0.70)			(2.02)
LOG(SALES)	0.008	0.008	0.008	0.010***	0.010***	0.0101***
	(1.21)	(1.28)	(1.27)	(13.18)	(13.25)	(13.33)
R-Square	0.68	0.68	0.68	0.51	0.51	0.51
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	19510	19510	19510	19510	19510	19510

Panel B Tobin's Q and ROA regressions: Evidence from close elections

	WINMARGIN <=3%		WINMARGIN <=5%		WINMARGIN <=10%	
	All Elections	All Elections	All Elections			
Independent Variable	Q	ROA	Q	ROA	Q	ROA
	1	2	3	4	5	6
INTERCEPT	-0.472*	-0.095***	-0.496***	-0.086***	-0.520***	-0.083***
	(1.95)	(3.29)	(4.58)	(5.78)	(4.47)	(6.76)
CRIMINAL_WIN	-0.046	0.007	0.054	0.010**	0.058*	0.006*
	(0.49)	(0.65)	(0.94)	(2.14)	(1.68)	(1.65)
CRIMINAL_WIN*POST	-0.135**	-0.017*	-0.098	-0.006	-0.067	-0.006
	(1.97)	(1.85)	(1.60)	(1.20)	(1.23)	(1.64)
POST	0.251**	0.022**	0.138**	0.016***	0.086	0.007
	(2.14)	(2.01)	(2.16)	(3.04)	(1.00)	(1.56)
LOG(SALES)	0.049**	0.010***	0.054***	0.009***	0.057***	0.009***
	(2.28)	(3.62)	(4.59)	(9.47)	(3.72)	(9.50)
R-Square	0.09	0.063	0.058	0.05	0.05	0.06
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	2317	2317	7717	7717	11899	11899

Table 11 Corrupt Politicians and Firm Investments: Evidence from Net Asset Increases while in Office

This table examines the effect of election of corrupt politician on economic outcomes based on the definition of political corruption introduced in Fisman, Schulz and Vig (2014). We define a candidate to be corrupt it the increase in their net assets (assets - liabilities) is greater than 200% during the 5 year period when they were in office and non-corrupt if the increase is less than 200%. In Panel A, we report the effect of election of corrupt candidates on change in total investments in a district for both investor-owned and state-owned firms. ASSET_INCREASE_WIN is equal to 1 if the corrupt incumbent candidate with high asset increase won the election against a non-corrupt candidate and 0 otherwise. In Panel B we present the 3-day project announcement cumulative abnormal returns (CAR(-1,+1)) and the proportion of the projects stalled in the districts where the corrupt politicians narrowly won compared to the districts where they lost. Panel C presents estimates from regressions where the dependent variable is the market-model adjusted abnormal return for a 3-day window (CAR(-1,+1)) around the election result announcement date. The main independent variable is a dummy variable (ASSET_INCREASE_WIN) which is equal to 1 if a corrupt candidate defeats a non-corrupt candidate in close election with a win margin of less than or equal to 5% or 10% and is 0 otherwise. We only include firms that are economically linked to the district and have announced atleast one project in the given district in past 5-years (PCTPROJECT>0). The t-statistics are reported in parentheses and 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A Aggregate Investments

	WINMARGIN			
	<=5%	<=10%	<=5%	<=10%
	Private Firms		State Owned Firms	
Independent Variable	ChangeTotal Project Cost	ChangeTotal Project Cost	ChangeTotal Project Cost	ChangeTotal Project Cost
ASSET_INCREASE_WIN=0	-24144.6	-11823.7	-65513.0	-46711.5
	(-0.78)	(-0.49)	(-1.44)	(-1.58)
ASSET_INCREASE_WIN =1	-103304.0**	-94662.5***	-9619.8	-10999.3
	(-2.41)	(-3.14)	(-0.86)	(-0.84)
DIFF	-79159.4	-82838.8**	55893.2	35712.2
	(-1.46)	(-2.09)	(1.44)	(1.23)

Panel B Project Announcement Returns

	Private-Sector Projects		State-Owned Projects	
	WINMARGIN<=5%		WINMARGIN<=5%	
	CAR(-1,+1)	Stall	CAR(-1,+1)	Stall
ASSET_INCREASE_WIN=0	0.54*	5.43***	0.63	0.00
	(1.66)	(2.71)	(1.64)	(0.00)
ASSET_INCREASE_WIN=1	0.55	10.32***	-0.40	0.00
	(1.19)	(3.79)	(-0.61)	(0.00)
DIFF	0.02	4.89	-1.03	0.00
	(0.03)	(1.45)	(-1.45)	(0.00)

Panel C Election Announcement Returns

	Dependent Variable: Market Model-Adjusted CAR (-1,+1)			
	WINMARGIN<=5%		WINMARGIN<=10%	
	PCTPROJECT>0			
Independent Variable	Local Firms	Non-Local Firms	Local Firms	Non-Local Firms
INTERCEPT	0.273***	-0.076*	0.035	-0.103**
	(8.66)	(-1.73)	(0.33)	(-2.37)
ASSET_INCREASE_WIN	-0.0918***	-0.018	-0.078**	0.004
	(-6.39)	(-1.00)	(-2.02)	(0.20)
LOG(MCAP)	0.003	0.002	-0.002	0.004
	(0.37)	(0.40)	(-0.42)	(1.06)
R-Square	0.59	0.55	0.59	0.54
State Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes	Yes	Yes
N	39	188	63	269

Table 12 Criminal Politicians and Firm Value: Evidence for Violent and Non-Violent Crimes.

Panel A presents the change in aggregate investments in districts where the criminal candidate contested against a non-criminal candidate and either won (CRIMINALWIN=1) or lost (CRIMINALWIN=0). We further divide the sample into two parts conditional on whether the candidate with criminal charges is charged with atleast one violent crime or not. Panel B presents the differences in project announcement CARs for districts where the criminal politician narrowly won compared to the districts where a criminal candidate narrowly lost conditional on whether the nature of crime is violent or non-violent. In Panel C, we separately report the impact of criminal candidate win on election announcement returns separately for the candidates charged with violent and non-violent crimes. The t-statistics are reported in parentheses and 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A Aggregate Investments

	Private Sector Investment Change Total Project Cost		State Owned Investment Change Total Project Cost	
Independent Variable	Violent Crimes	Non-Violent Crimes	Violent Crimes	Non-Violent Crimes
CRIMINALWIN=0	-4391.0	41566.5*	-23446.3	-23134.2
	(0.10)	(1.81)	(0.54)	(0.82)
CRIMINALWIN=1	-30466.4	-45378.8	31447.8*	11521.4
	(1.43)	(1.12)	(1.68)	(1.21)
DIFFERENCE	-26075.4	-86945.3**	54894.1	34655.6
	(0.57)	(1.99)	(1.34)	(0.94)

Panel B Project Announcement Returns

	Private-Sector Projects CAR(-1,+1)	
	Violent Crimes	Non-Violent Crimes
CRIMINALWIN=0	1.28***	1.88***
	(2.61)	(5.02)
CRIMINALWIN=1	1.32**	0.60*
	(2.14)	(1.83)
DIFFERENCE	0.04	-1.28***
	(0.04)	(2.58)

Panel C Election Announcement Returns

	Dependent Variable: Market Model-Adjusted CAR (-1,+1) WINMARGIN<=5% PCTPROJECT>0	
	All Firms	All Firms
Independent Variable	Violent Crimes	Non-Violent Crimes
INTERCEPT	0.071	-0.061
	(1.01)	(1.61)
CRIMINALWIN	-0.002	-0.033***
	(0.23)	(2.71)
WINMARGIN	-1.078**	-0.174
	(1.86)	(0.28)
LOG(MCAP)	0.007	0.000
	(1.11)	(0.06)
R-Square	0.67	0.31
State Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Clustered(District, ElectionYear)	Yes	Yes
N	121	311

Appendix 1 Regression Discontinuity Design: Tests

This table reports the results corresponding to the tests that validate the application of Regression Discontinuity design. In Panel A, we examine the characteristics of criminal candidates who narrowly won (CRIMINALWIN=1) compared to those who narrowly lost (CRIMINALWIN=0). The independent variable is CRIMINALWIN and the dependent variable is one of the various observable characteristic corresponding to the criminal candidate. In Panel B, we test for the absence of discontinuity in one of the following outcome variables: project announcement CAR, election announcement CAR and change in aggregate investments at cutoffs other than 0%, we consider +5% and -5% as alternative cutoff points. . The t-statistics are reported in parentheses and 1%, 5% and 10% statistical significance are indicated with ***, ** and * respectively.

Panel A Criminal Candidate Characteristics around the Cutoff Point

	Intercept	Criminal Win
Number of Criminal Cases	2.66***	-0.03
	(4.81)	(0.04)
Serious Criminal	0.50***	-0.05
	(7.55)	(0.57)
Assets	66.65***	-37.95
	(2.89)	(1.58)
Liabilities	4.161*	-0.986
	(1.74)	(0.38)
Education	3.931***	-0.181
	(27.06)	(0.89)
National Party	0.569***	0.11
	(8.67)	(1.21)

Panel B Outcome variables around alternative cutoff points

	Project Ann		Election Ann		Change Investment	
	CAR(-1,+1)		CAR(-1,+1)		Change Total Project Cost	
	+5%	-5%	+5%	-5%	+5%	-5%
Intercept	-0.004	0.049**	-0.131***	-0.044	741.8	-362407.6*
	(0.11)	(2.08)	(5.60)	(1.41)	(0.01)	(1.87)
CRIMINALWIN	0.014	-0.012	-0.018	0.001	14141.0	-27929.5
	(1.51)	(1.08)	(0.92)	(0.02)	(0.44)	(0.69)
WINMARGIN	-0.248	0.264	0.248	-0.133		
	(1.11)	(1.29)	(0.74)	(0.27)		
LOG(MCAP)	0.001	-0.003*	0.001	-0.001		
	(0.42)	(1.78)	(0.39)	(0.32)		
Clustered(District,Election Year)	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	No	No
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	No	No	No	No
N	347	423	356	352	129	146
R2	21.26	22.27	43.36	22.7	24.51	23.76

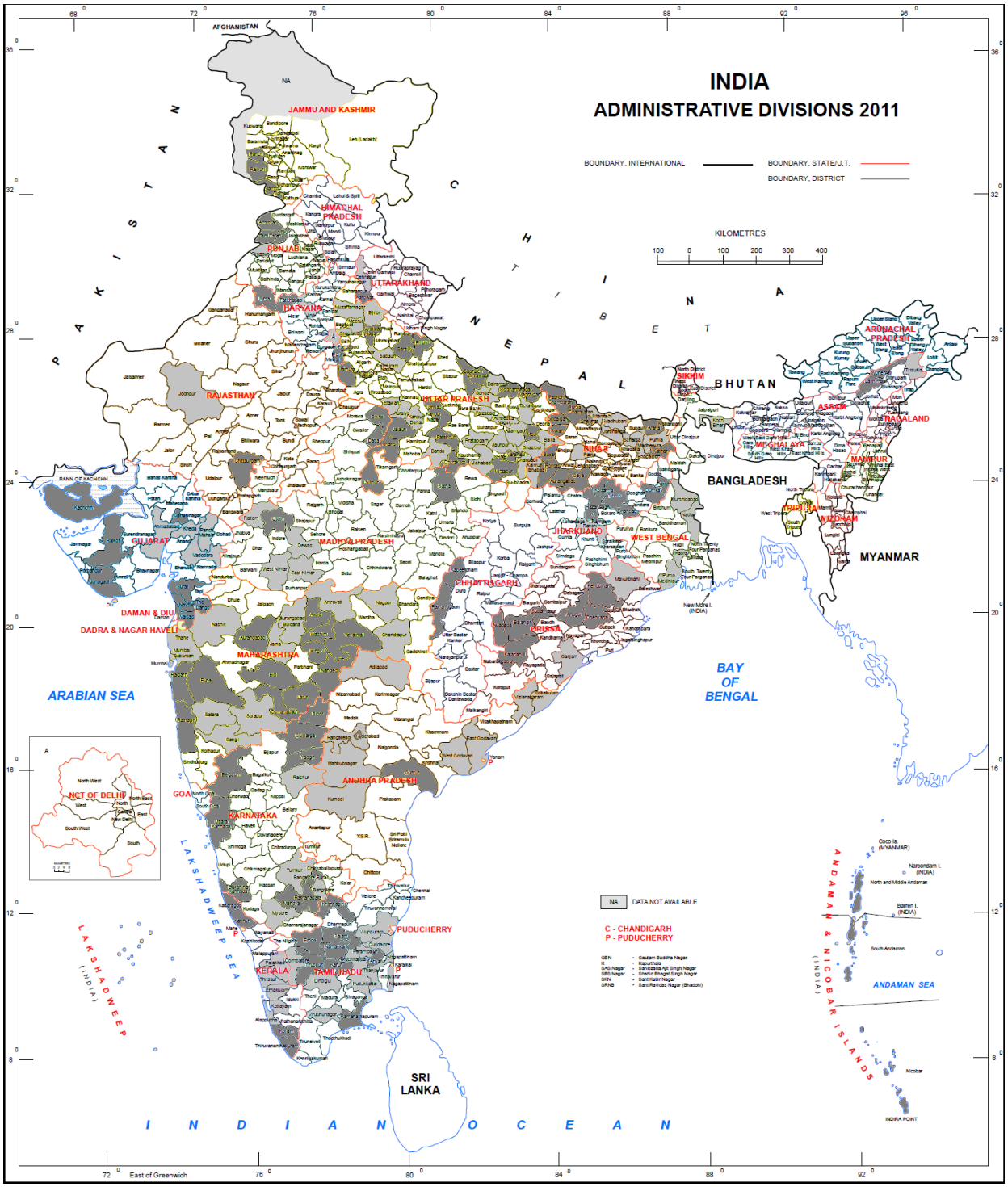

Figure 1 Criminal Politicians Index: 2009 General Election

(Note: White shaded area indicates that the district has zero elected MPs with criminal background. Light Gray indicates less than or equal to half of the elected MPs with a criminal background whereas dark gray indicates districts with more than half of the MPs with criminal charges.

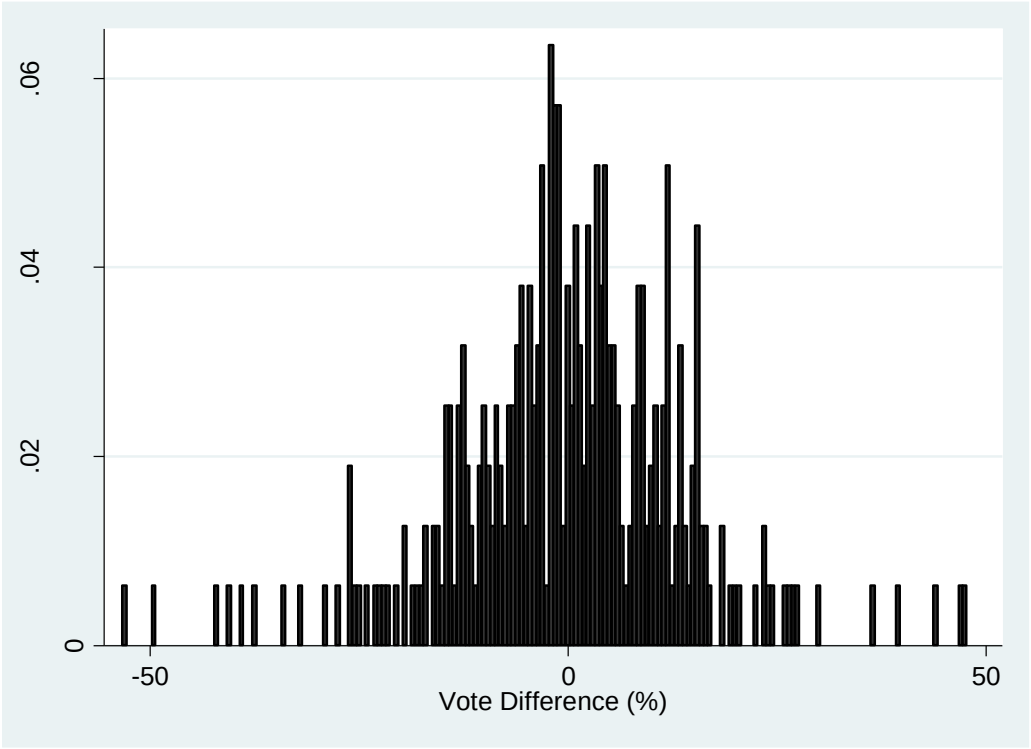

Figure 2 Panel A Regression Discontinuity Design: Distribution of Vote-Share Difference

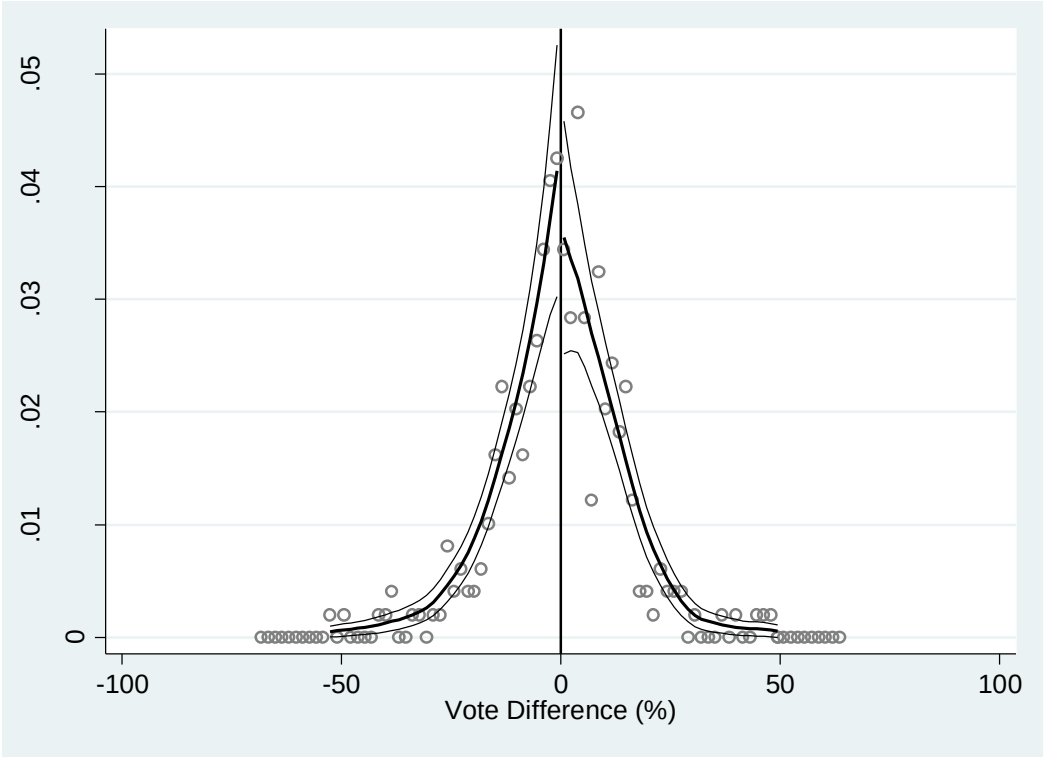

Figure 2 Panel B Smoothed Density of Vote-Share Difference

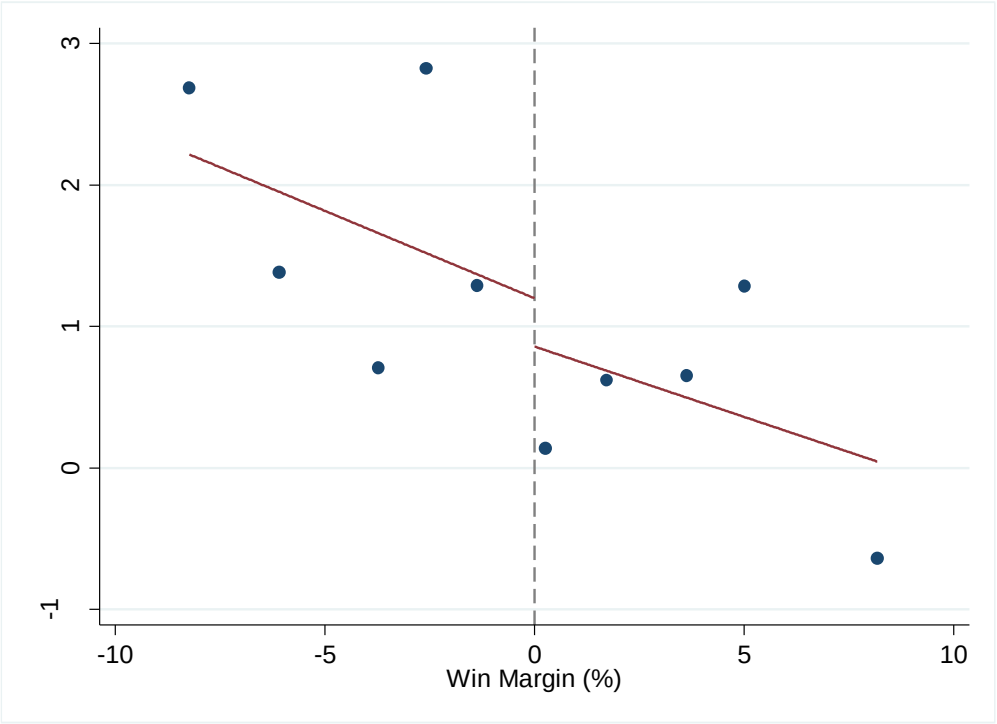

Figure 3 Panel A Project Announcement Returns: Private Sector Firms

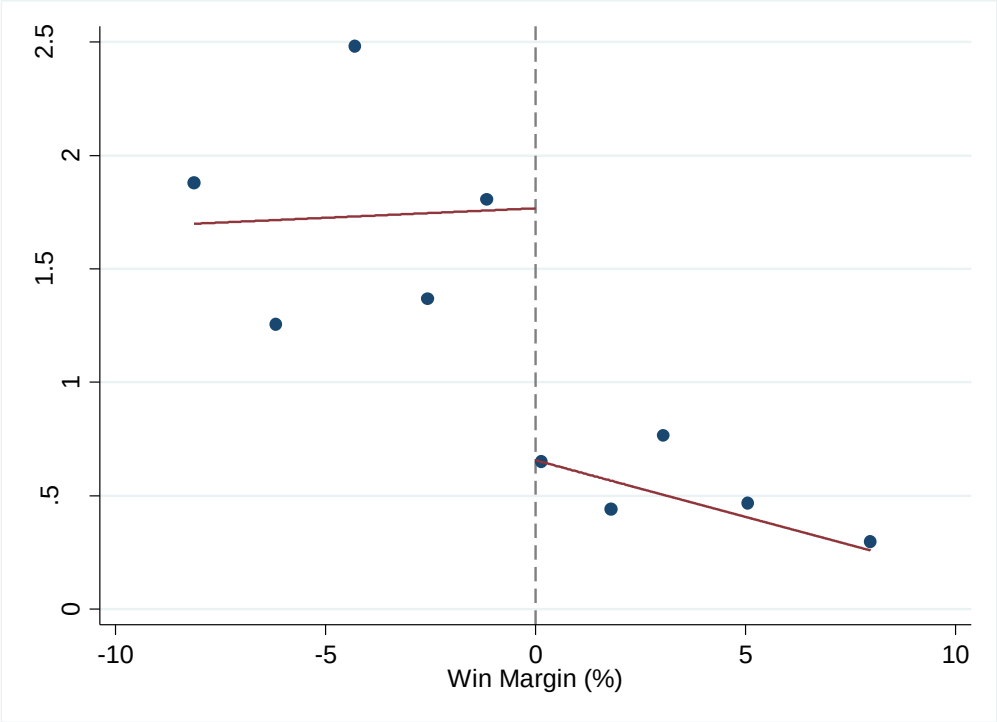

Figure 3 Panel B Project Announcement Returns: Private Sector Firms (Including Year Fixed-Effects)

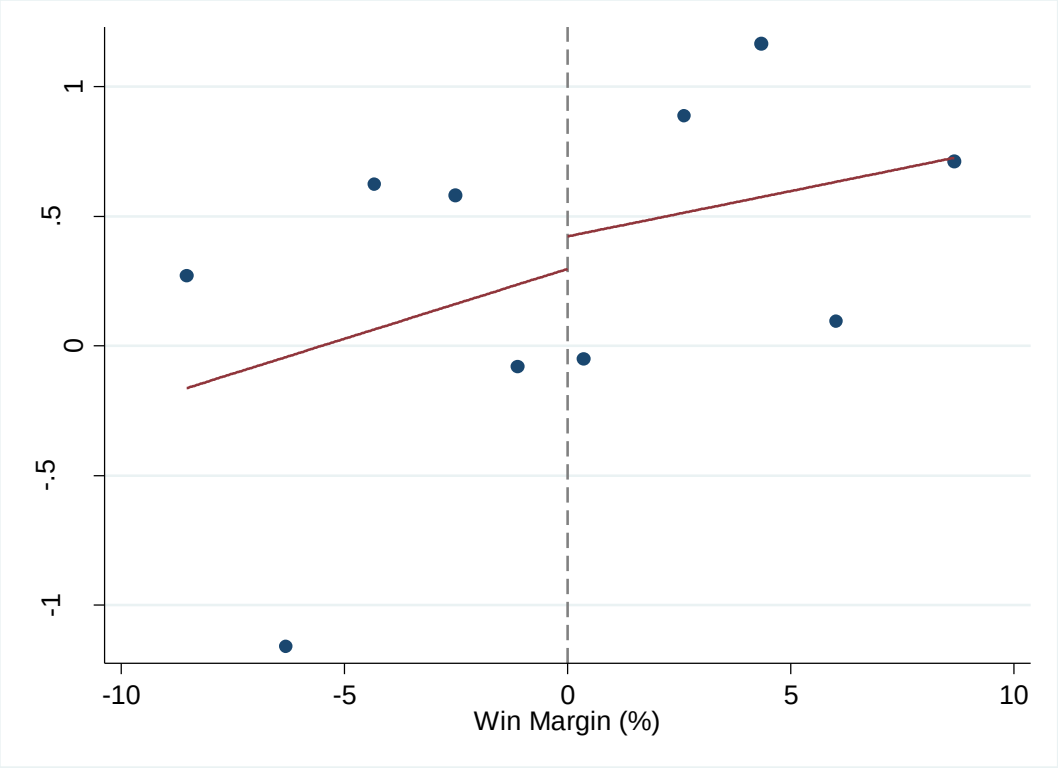

Figure 3 Panel C Project Announcement Returns: State-Owned Firms (Including Year Fixed-Effects)

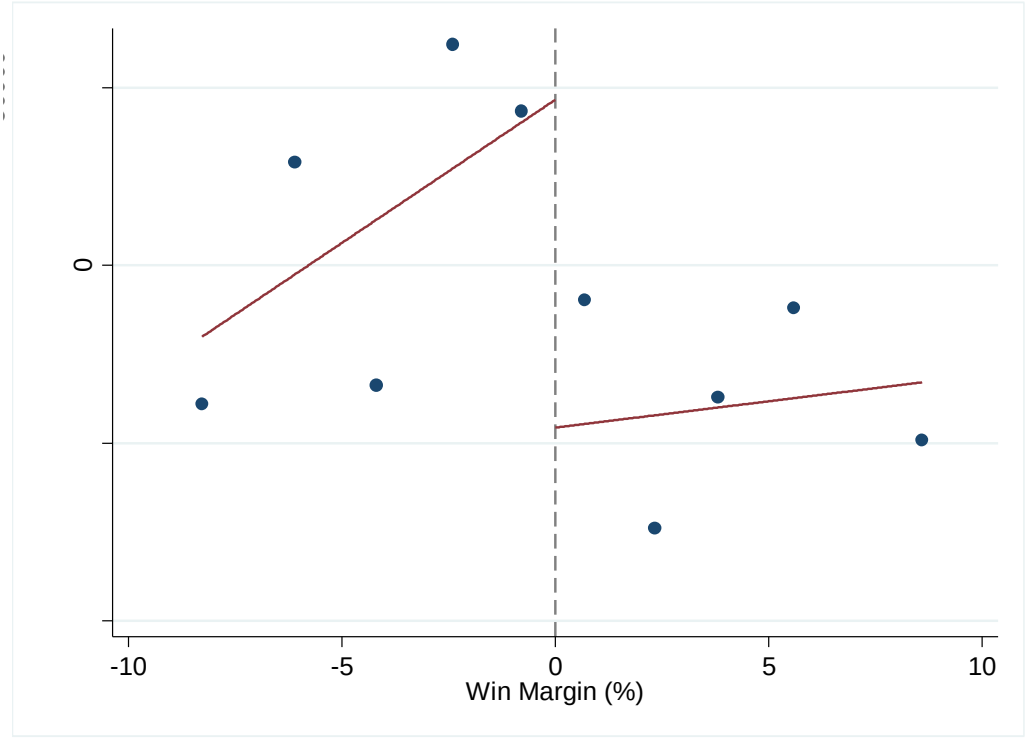

Figure 4 Panel A Change Total Project Cost: Private Sector

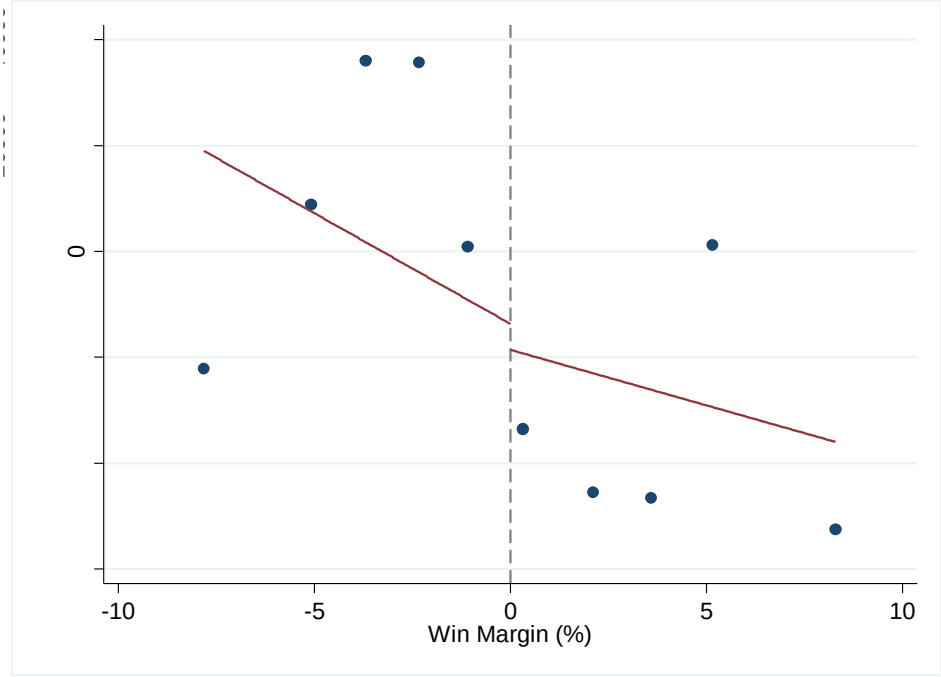

Figure 4 Panel B Change Total Project Cost: Private Sector (Including State-Fixed Effects)

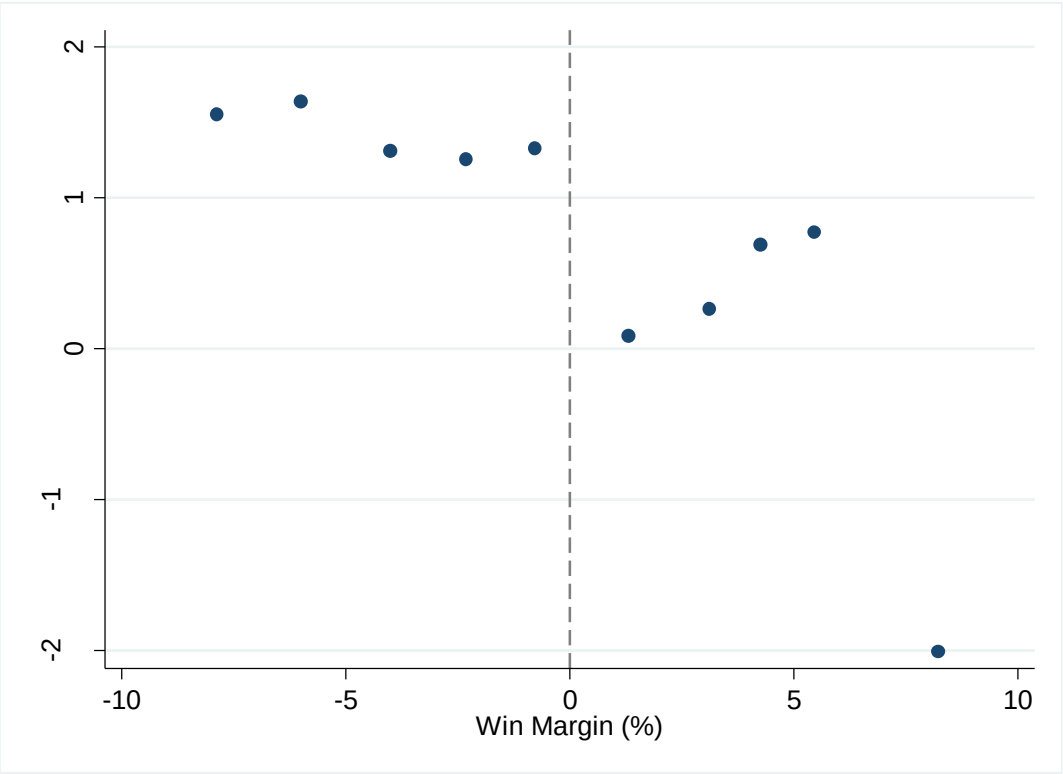

Figure 5 Election Result Announcement Returns around Close Elections