Political Influence and Government Investment: Evidence from Contract-Level Data*

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Abstract

We use contract-level data to study the effect of corporate political influence on the allocation, design, and real outcomes of government contracts. To isolate the treatment effect of political influence, we focus on campaign contributions in close elections and the 2009 American Recovery and Reinvestment Act. Firms with political influence win more contracts, with larger amounts, weaker competition, and looser oversight, and successfully renegotiate contract terms. While preferred access to government contracts improves performance and output, contractual laxity exacerbates agency problems and erodes efficiency. Overall, we provide estimates of the dual effect of political influence on firm outcomes.

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1. Introduction

This paper studies detailed contractual agreements awarded by the U.S. Federal Government to the private sector. It uses novel contract-level data to answer two main questions. First, how does corporate political influence affect the allocation of government contracts and the contractual features of awarded contracts, including incentives, monitoring, competitiveness, and renegotiation terms? Second, what are the implications for firms' output and operating performance?

Theory offers diverging views on the effects of political influence. On the one hand, political influence can improve firms' access to, and terms of, government resources, consequently increasing firm value and output (e.g., Stigler (1971), Peltzman (1976), McChesney (1987), De Soto (1990), Spiller (1990), Shleifer and Vishny (1998)). On the other hand, competition for government resources among politically active firms can turn into a prisoners' dilemma in which the government captures all potential gains (Dixit, Grossman, and Helpman (1997)). Further, preferred access to government resources and lax monitoring can exacerbate the agency problems of free cash flow, consequently reducing firm efficacy and value (Jensen (1986) and Stulz (1990)).

Anecdotal evidence suggests that political influence plays a role in government contracts. For example, Randy "Duke" Cunningham, who served as a House member for California's 50th Congressional district from 1991 to 2005, received campaign contributions as well as a 42-foot Carver yacht from defense contractor MZM, Inc. in return for government contracts, including a "blanket-purchase agreement" for $225 million in September 2002. Appendix B shows a scan of a "bribe menu" submitted as evidence by the prosecution in Cunningham's trial, penned by his own hand on his own Congressional office stationery.

Despite the anecdotal evidence and the potential importance of these effects, clean evidence on the role of corporate political influence in government decisions and consequently firm output and value is difficult to obtain. First, routine government decisions that directly affect firms are difficult to observe and map to individual firms. Therefore, the economic channel through which political influence affects firms is often hard to pin down. Second, even if those decisions could be observed, it is difficult to assess their effect without considering the full set of contractual terms, including incentives, competitiveness, and follow-on modifications. Third, firms' political influence is nonrandom and hard to separate from confounding economic factors.

We address these identification challenges by focusing on government procurement contracts. The focus on procurement contracts is motivated by several factors. First, these contracts capture substantial government spending: $411.0 billion a year on average, representing 78.7% of gross government investment. Second, this setting allows us to observe detailed information about the terms of each contract, including incentives, monitoring mechanisms, competition, and subsequent renegotiations. Third, these contracts can be directly linked to individual firms over well-identified time intervals, generating both within-firm and across-firm variation in government contracts.

We collect detailed data on procurement contracts between 2001 and 2010, which cover over $4.1 trillion in government spending. We hand-match the data to Compustat based on firm name and identify 931 firms that received a total of $1.0 trillion in 82,771 government contracts during the sample period. The size of the average contract at signing is $4.0 million. 72.8% of contracts are modified after signing, resulting in an average increase of $8.1 million in contract amount and an average extension of 8.8 months in contract duration. Conditional on receiving a contract, the median firm in our sample receives $43.8 million in a given year.

We measure corporate political influence using firms' campaign contributions to political candidates. This measure has two important advantages. First, it allows for a comparison of firms that contributed to a winning politician to firms that contributed to a losing politician, thus holding constant the firm's political activism through campaign contributions.[1] Second, it mitigates concerns about the simultaneity of political influence and contract allocation. Specifically, we study how contributions to a political campaign affect contract allocation, design, and outcomes *after* the campaign is over and the candidate has either won or lost the election.

To further separate the treatment effect of corporate political influence from confounding factors such as the selection of politically active firms, we focus on campaign contributions in close elections. Similar to Akey (2015) and Akey and Lewellen (2016), we consider net connections around close elections. Specifically, we calculate the difference between the number of politicians a firm contributes to who win a close election (positive treatment) and the number of politicians a firm contributes to who lose a close election (negative treatment). In discussing the results, we use "connection" or "connected" to indicate a unit increase in net connections through contributions in close elections. The identifying assumption is that there is randomness in the outcome of an ex-post close election (Lee (2008)). This setting is akin to a regression discontinuity design that isolates exogenous changes in firms' political influence.

We begin by studying the allocation of government contracts. We find that connected firms are 2.0% more likely to receive a contract. This effect is highly statistically significant and holds after controlling for unobservable time and industry effects. This finding is consistent with the evidence in Goldman, Rocholl, and So (2013), who show that board connections affected

[1] Only 9.9% of contributions in the sample are given to more than one candidate in the same close election. In such cases, our measure of political influence equals zero. Importantly, all the results hold after excluding these cases.

contract allocations around the 1994 elections, and Tahoun (2014), who shows that stock ownership by politicians is associated with the allocation of government contracts.

Next, we provide novel evidence on the detailed terms of government contracts. Connected firms receive contracts that are $11.7 million larger at signing, on average. These firms also are 1.6% to 1.9% more likely to win noncompetitive contracts. Moreover, firms with connections are 1.9% more likely to receive increases in contract awards following the initial signing and 2.7% more likely to receive extensions in contract completion dates. In the analysis of contracts' incentives and oversight, we study how contracts monitor progress and award or penalize firms based on the quality and timeliness of their product. We find that connected firms are 2.1% and 1.6% more likely to receive contracts with weaker monitoring and incentive mechanisms, respectively.

To further isolate the causal effect of political influence, we exploit the exogenous increase in the supply of government contracts due to the 2009 American Recovery and Reinvestment Act (ARRA). This setting has several important features. First, the Act provided a sizable stimulus package of $831 billion that was not anticipated by firms during the 2008 election cycle. Thus, coupled with our focus on close elections in the 2008 cycle, this setting further mitigates concerns about the endogeneity of political activism. Second, stimulus contracts were accompanied by very little oversight, providing politicians with discretion over their allocation and design. Third, each stimulus contract is uniquely marked in our dataset. Thus, contrary to other government interventions, such as the TARP, we can trace the direct use of the capital distributed under the ARRA.

We find that connected firms were 3.8% more likely to receive stimulus contracts, won stimulus contract amounts that were, on average, $19.7 million larger, and were 4.7% more

likely to win stimulus contracts without built-in monitoring or incentive mechanisms. These results are consistent with the evidence on political favoritism in the allocation of bailout capital (e.g., Faccio, Masulis, and McConnell (2006) and Duchin and Sosyura (2012)), and provide direct evidence supporting the concerns of many macroeconomists that fiscal policy is implemented by political institutions and therefore influenced by political motives. Our estimates also suggest that the role of political influence in non-routine ARRA contracts is even bigger than its role in routine contracts.

One caveat with the analyses is that politicians may differ in their ability to influence procurement contracts. We therefore investigate campaign contributions to members of the Committee on Appropriations, Budget or Infrastructure, which play a key role in the allocation of procurement contracts, in the House or Senate. We find that contributions to these politicians have stronger effects on the allocation, design, and renegotiation of government contracts. The effects of contributing to such politicians who win in close elections are 2.9 to 7.0 times larger compared to the average politician.

Another concern is that our analysis is confounded by local economic conditions and the interests of local politicians. If firms contribute primarily to local politicians, the effect of political influence on government contracts may by correlated with unobservable local economic effects or the motives of local politicians. Under this view, political activism captures geographic selection rather than a treatment effect. To address this concern, we investigate the impact of contributions in close elections when a firm does not operate in a politician's district or state, effectively separating between political influence and the interests of local politicians or the local economy. We find that contributions to distant politicians have similar effects. Contributing

firms are 1.9% more likely to receive contracts, 1.3% more likely to win contracts with fewer incentives and 2.1% more likely to be awarded contracts with fewer competing bids.

In the final set of analyses, we evaluate the efficacy and agency costs of political influence. First, we examine firms' operating performance following contract allocations. To overcome endogeneity concerns, we use a two-stage least squares instrumental variables approach. In the first stage, we estimate the effect of contributing to a winning politician in a close election on the likelihood of receiving a government contract. In the second stage, we estimate the effect of the predicted value from the first stage on the operating performance of the firms, as measured by the return on assets (ROA). While we cannot fully rule out that political influence affects firm outcomes through channels other than procurement contracts, we show in placebo tests that the performance and output of non-contract recipients are unaffected by contributing to net winners in close elections.

The findings show that connected firms are 1.6% more likely to receive contracts, and consequently have 4.3% higher ROA relative to the sample mean. Interpreted broadly, these findings suggest that firms benefit from the favorable allocations resulting from the increase in political influence around close elections.

Second, we investigate the ex-post channels through which political influence and government contracts affect firm performance. In particular, we examine whether they spur private sector innovation. The focus on innovation is motivated by the stated goal of procurement contracts and government spending to spur innovation (Bayh-Dole Act (1980) and Executive Order No. 12591 (1987)). We measure innovation using the number of patents and patent citations. These measures are based on Griliches (1990), who finds that patents are a

better measure of innovation than research and development expenditures, and on Hall, Jaffe, and Trajtenberg (2005), who show that patent citations are a measure of the value of innovation.

We find that, on average, favorable access to government spending enhances private sector innovation. Using a similar two-stage least square instrumental variable approach, we find that receiving a procurement contract is associated with an increase in the scale and novelty of innovation, as measured by the number of patents and patent citations, respectively. On average, firm-level patent production increases by 17.9% in the four-year period after winning a contract and patent citations increase by 8.8%, relative to the sample mean.

Third, we evaluate the agency costs associated with political influence and government investment. In particular, we investigate the consequences of weaker contractual incentives and monitoring mechanisms. Our analyses exploit the ex-post variation in contractual terms across firms that contribute to net winners in close elections and receive government contracts. This setting holds constant political influence and access to government contracts, focusing exclusively on variation in contractual incentives and monitoring. We find that weaker incentives and monitoring in procurement contracts erode subsequent operating performance by 2.8%, and reduce patent production and novelty by 1.6 patents and 1.6 patent citations, respectively. These findings suggest that the benefit of political influence is partially undone by the agency costs that arise due to lax government monitoring in the execution of government contracts.

Overall, the results in this article document nuanced, dueling effects of a firm's political influence. Political influence improves firms' access to government investment through the allocation and terms of government contracts, spurring firms to innovate and consequently improving their performance. However, contractual laxity and loose monitoring exacerbate agency problems harming firm performance and output.

2. Literature Review

This paper contributes to the literature on political economy, which offers diverging evidence on the value of political influence. Several studies find that firm value increases when firms establish political connections (Roberts (1990), Fisman (2001), Faccio (2006), Cooper, Gulen, and Ovtchinnikov (2010), Chen, Parsley, and Yang (2015), and Akey (2015)) and decreases when they lose political connections (Faccio and Parsley (2009)). Other studies find that politically connected firms suffer from higher agency problems and have lower valuations (Yu and Yu (2011) and Coates (2012)).

While the value of political connections has been studied extensively, we know relatively little about the channels through which such connections enhance or reduce value. This paper investigates one such channel, the allocation and design of government contracts, and evaluates their real outcomes. Existing research on government procurement focuses on the allocation of procurement funds (see Goldman, Rocholl, and So (2013) and Tahoun (2014) for evidence in the U.S. and Schoenherr (2016) for evidence in Korea). We use novel micro-level data on the contractual features of government procurement to provide estimates of both value creation and agency costs arising from political influence in the design of government contracts.

This paper is also related to existing empirical research that focuses on firms' access to capital. Prior work finds that firms with political influence have better access to external capital (Johnson and Mitton (2003), Cull and Xu (2005), Dinç (2005), and Khwaja and Mian (2005)) and are more likely to be bailed out (Faccio, Masulis, and McConnell (2006) and Duchin and Sosyura (2012)). We contribute to this line of research by identifying the direct contractual mechanisms that govern the efficacy of both the allocation of government capital and its subsequent use for innovation and value creation. Further, we provide comparable estimates of

the role of political influence in routine decisions (day-to-day procurement contracts) and in non-routine emergency decisions (stimulus contracts awarded under the 2009 American Recovery and Reinvestment Act).

Finally, this paper is also related to the growing literature that studies firm-level innovation and provides evidence on the relation between political connections and innovative activity (Kim (2015) and Ovtchinnikov, Reza and Wu (2016)). The focus on innovation is driven by recent studies, such as Kogan et al. (2016), which show that innovation is an important source of long-term economic growth. We contribute to this literature by identifying a direct channel through which political influence affects the allocation of government capital specifically designated to spur private sector innovation – procurement contracts (see the Bayh-Dole Act of 1980 and Executive Order No. 12591 (1987) for details).

3. Government Contracts

The United States Government regularly enters into contracts with firms and individuals to purchase goods and services. In fact, based on the Compustat segments database, the U.S. Federal Government was the largest customer of the private sector every year during the sample period, 2001-2010, by an order of magnitude of 3.7 to 5.5 relative to the next largest customer.

An opportunity for a contract begins when an agency of the Federal Government, such as the Department of Education, requires a good or service. A contracting officer for the agency provides information about the opportunity on the Federal Business Opportunities website (http://www.fbo.gov). Potential bidders review the solicitation and can submit offers for the contract, which are evaluated by agency employees. Contracting with the government has become increasingly unified, particularly with the creation of the Federal Acquisition Regulation

in 1984. These regulations provide guidelines for many aspects of contracts, including their management and reporting (Feldman and Keyes (2011)).

The Federal Procurement Data System (FPDS) tracks procurement contracts of the U.S. Federal Government. This comprehensive system provides detailed information on nearly all federal contracts for about 65 different branches, departments and agencies of the Federal Government.[2] The U.S. government began providing data on procurement contracts in 1978, though reporting is often incomplete prior to 2000 (Liebman and Mahoney (2013)). The Federal Funding Accountability and Transparency Act of 2006 led to the creation of the USAspending.gov website, which provides data from the FPDS starting in 2000. Specifically, the system reports comprehensive details on any contract with a transaction value of at least $3,000.

We hand-match each contract in the FPDS to firms in Compustat, excluding financial firms (SIC 6000-6999) and regulated utilities (SIC 4900-4999). Appendix A.2 details the matching procedure for linking contracts to firms in Compustat. To form a four-year window for each election, the sample period starts in 2001, two years before the first election cycle with available data on the USAspending.gov website. The sample period ends in 2010, the last year for which data on patenting activity is available. Overall, the contracts data covers $4.1 trillion in government spending. Restricting the sample to those contracts whose total amount is at least $1 million, we identify 931 firms that collected a total of $1.0 trillion in 82,771 contracts.

The FPDS provides detailed information on the terms of each contract, including its amount, duration, all competing bids, and the monitoring and incentive mechanisms that accompany the contract. Moreover, the system tracks all subsequent renegotiations for changes

[2] The FPDS excludes data on classified contracts, in addition to those from the U.S. Postal Service and certain legislative and judicial branches.

in the amount awarded and completion deadlines. Table 1 summarizes the terms of the contracts observed in the sample, including renegotiations and industry composition. Detailed variable definitions are in Appendix A.1.

Panel A of Table 1 explores contract-level details at initiation. The average initial amount of a contract is $4.0 million, with a mean total amount of $12.1 million from contract signing to its completion. A contract typically lasts for just over a year and there is substantial variation in the length of a contract.

Contracts with the government also vary in their intensity of monitoring and performance-based incentives. We define *Monitoring* as an indicator that equals one when the government monitors the timeliness and quality of contract completion and zero otherwise. For example, a "Cost Plus Award Fee" contract sets a fee at the contract signing that the agency can award based on an evaluation of the firm's performance (Feldman and Keyes (2011)). As Panel A of Table 1 shows, 18.6% of the contracts in the sample include monitoring features.

To capture contract incentive mechanisms we create an indicator variable, *Pay-for-performance,* that equals one for contracts that use performance-based acquisition methods and zero otherwise. These contracts specifically include a performance work statement with standards for measuring contract performance and compensate firms for meeting these standards (Federal Acquisition Regulation (2014)). In the sample, 19.8% of the contracts include pay-for-performance statements. Appendix A.1 provides additional details on contract terms identifying monitoring and pay-for-performance characteristics.

We also introduce two measures that capture the competitiveness of the bidding process for procurement contracts. *Competitive bidding* is an indicator that equals one if the extent of competition is "Full and Open Competition" and there is more than one source for the product or

service. *Number of bids* is the number of bids that were submitted for a contract. As Panel A shows, 66.8% of contracts have competitive bidding, and the average contract receives 4.6 bids.

The FPDS also provides detailed data on contract renegotiations, which are summarized in Panel B of Table 1. As Panel B indicates, 72.8% of the contracts in the sample are changed after they are initiated. The average contract undergoes 5.7 modifications. The average award increase is $1.4 million, while the average reduction is $0.3 million. Contracts are extended by an average of 8.8 months.

To highlight the breadth of contracting captured in this dataset, Panel C reports the count and size of contracts by industry. Overall, the dataset allows us to observe just over $1 trillion in contracts awarded to firms in Compustat. Business equipment and manufacturing received the most contracts, both in terms of the number of contracts and their total value. Business equipment collected $343.7 billion of government spending through 33,160 contracts, while manufacturing received $398.1 billion in 22,238 contracts.

4. Political Influence and Identification Strategy

To measure corporate political influence we focus on contributions to candidates running for political office in the U.S. House of Representatives or the U.S. Senate. Each election cycle provides firms with the opportunity to contribute to politicians. Firms allocate funding to candidates running for office in the House of Representatives or Senate using political action committees (PACs). In particular, a firm forms a PAC that contributes to a candidate's election PAC, which distributes the contributions to the candidate's campaign. Under the Bipartisan Campaign Reform Act of 2002, contributions from a firm's PAC to each candidate's PAC are limited to $10,000 per election cycle.

Data on firms' campaign contributions are provided by the Federal Election Commission (FEC). We manually match the contributions listed in this database to Compustat firms following the method described in Appendix A.3. The firms in the sample contributed a total of $19.6 million to candidates' election PACs in 2001. Total annual contributions have increased monotonically each election cycle over the sample period, and reached $51.5 million by 2010.

Political influence is clearly nonrandom since companies choose to become politically active. In particular, companies choose whether or not to contribute to political campaigns, and if they do, to which ones. These choices can be correlated with firms' interests in government contracts, as well as other observable or unobservable firm characteristics that affect the allocation and terms of government contracts.

We address these concerns by exploiting close elections as a form of exogenous variation in a firm's political influence. We obtain detailed data on general elections, including vote tallies by candidate, from the FEC. Our approach is similar to Lee (2008), Akey (2015), and Akey and Lewellen (2016). The identifying assumption is that firms cannot perfectly predict the outcomes of elections when the ex-post margin of victory is less than five percent. For each election cycle, we construct the shock to a firm's political influence as follows:

$$Net\ winners\ in\ close\ elections_{it} = WinnerCount_{it} - LoserCount_{it}, \quad (1)$$

where $WinnerCount_{it}$ is the number of winning candidates in close elections that firm i contributed to in election cycle t and $LoserCount_{it}$ is the number of losing candidates in close elections that firm i contributed to in election cycle t. For example, consider a firm contributing to three candidates in an election cycle whose margin of victory is less than five percent. If two of the three candidates win, then *Net winners in close elections* is 2 – 1 = 1 for this firm-election year.

Panel A of Table 2 summarizes the measures of political influence. The average (median) value of *Net winners in close elections* in the sample is 0.8 (1.0). Since *Net winners in close elections* is greater than zero on average, a potential concern is that firms can predict the outcomes of close elections, and therefore contribute more to winners than to losers in close elections. Under this scenario, the identifying assumption of randomness around the close elections threshold is violated.

We argue, however, that this concern is mitigated by several factors. First, as in Akey (2015), we find that the magnitude and sign of *Net winners in close elections* varies by election cycle, consistent with the randomness of elections near the threshold.[3] Second, following Lee (2008), we rely on the identifying assumption that firms cannot precisely predict the outcomes of elections. The empirical design therefore captures the weighted average treatment effect. Lastly, Eggers et al. (2015) study numerous close electoral races and consider whether agents have precise controls over their outcomes. They conclude that the identifying assumption for close elections is likely satisfied.

To study the effect of political influence on a firm's contracts and real outcomes, we collapse the data on government contracts, political contributions, and firm outcomes into a firm-election year panel. We restrict the sample to firms contributing to at least one politician in a close election, mitigating concerns that the results are driven by unobservable differences between politically active and inactive firms, or between firms that contribute and firms that do not contribute to candidates in close races. The baseline specification is given by:

$$\Delta Y_{ijt} = \alpha + \beta \cdot Net\ winners\ in\ close\ elections_{it} + \gamma \cdot \Delta X_{it} + \mu_t + \eta_j + \varepsilon_{ijt}, \qquad (2)$$

[3] We find that firms were connected to a particularly large number of net winners in the 2002 election cycle (mean=1.37). However, the means were significantly smaller for the other election cycles (mean for 2004=0.10, mean for 2006=0.23, mean for 2008=-0.03). We obtain similar results after excluding the 2002 election cycle.

where ΔY_{ijt} is the change in the outcome of interest in the two years after a close election compared to the two years prior to a close election and X_{it} is a vector of firm-level controls, including *Size*, *Market-to-book*, *HHI*, *CAPX*, and *COGS*. Detailed variable definitions are given in Appendix A.1 and Panel B of Table 2 reports summary statistics on these variables. We also include industry fixed effects (η_j) to absorb the influence of all industry-level attributes that remain unchanged over the sample period. To account for the effect of business cycle and nationwide temporal variation across election cycles, all regressions include election-year fixed effects (μ_t). The coefficient of interest is β, which captures the marginal effect of an unexpected increase in a firm's political influence due to the outcome of a close election.

Panel B of Table 2 also summarizes firm-level measures related to the allocation and design of government contracts. Contract allocation outcomes are measured by *Contract indicator,* which equals one if a firm receives at least one contract in the year following an election, and *Total contract amount*, which equals the total amount of awards to a firm in a particular year. As Panel B shows, contracts are awarded in 34.0% of firm-election years and, conditional on winning a contract, the median contract awarded is $43.4 million. Contract design measures focus on incentives and competitiveness. The average value-weighted percent of contracts with *Monitoring* or *Pay-for-performance* features that a firm receives in a given year is 8.9% and 11.1%, respectively, and the average *Number of bids* per contract is 4.2.

5. Contract Allocation, Design, and Renegotiation

This section evaluates the main research question: How does political influence affect the allocation and terms of government contracts, including incentives, governance, competitiveness, and renegotiation? We present evidence from routine procurement contracts as well as non-

routine stimulus contracts allocated under the 2009 American Recovery and Reinvestment Act. We conclude this section with robustness tests that consider connections to powerful politicians and to politicians outside the state in which the firm is headquartered.

5.1. Contract Allocation

Panel A of Table 3 provides the results on the allocation of government contracts. Each column corresponds to a separate regression. All regressions are estimated using the specification in equation (2) above. Probit specifications in this and the following tables have fewer observations because observations that are perfectly predicted are dropped. In our discussion, we use "connection" or "connected" to refer to a unit increase in net connections through contributions in close elections.

The dependent variable in column 1 is the indicator variable *Contract increase*, which equals one if a firm receives an increase in the total dollar amount of its procurement contracts in the two years following a close election compared to the two preceding years. We find that connected firms are 2.0% more likely to receive an increase in their total contract amount.

Column 2 examines *ΔNumber of contracts*, which is the change in the number of contracts awarded in the two years following a close election compared to the two prior years. On average, connected firms receive 2.4 more contracts. Column 3 studies changes in contract awards and shows that connected firms receive an average increase of $11.7 million in the amount awarded at signing in the two years following the election, relative to the two previous years.

The results are consistent with prior studies (Goldman, Rocholl, and So (2013) and Tahoun (2014)) showing that connected firms are more likely to receive government contracts.

5.2. Contract Design

Our novel contract-level data allows us to study how political influence affects the design of government contracts. In particular, Panel B of Table 3 examines the governance, incentives, and competitiveness terms of government contracts. To study these terms, we read each government contract and construct measures of monitoring, pay-for-performance, and competition. For each measure, we compare the average value-weighted percent of contracts with a particular contractual term in the two years before a close election to the two following years. The sample is restricted to firms contributing to candidates in close elections that receive government contracts. Thus, this setting holds constant political activism and access to government contracts, focusing exclusively on variation in contract design.

Columns 1 and 2 of Panel B analyze the governance and incentive mechanisms of government contracts. Column 1 investigates contractual features that monitor performance. Column 2 focuses on monetary incentives for completing a contract on time and with high quality. In particular, the dependent variable in column 1 is *Weaker monitoring*, which equals one if a firm receives fewer contracts with monitoring features following a close election. We find that connected firms are 2.1% more likely to win contracts with weaker monitoring.

The dependent variable in column 2 is the indicator variable *Lower pay-for-performance*, which equals one if the firm receives fewer contracts with performance-based acquisition methods. These methods award firms for meeting pre-specified project standards. We find that connected firms are 1.6% more likely to win contracts with less performance-based compensation.

Next, we study whether political influence affects the competitiveness of contract allocation. The dependent variable in column 3 is *Weaker competition*, which equals one if a

firm receives fewer competitive contracts, defined as contracts where the extent of competition is "Full and Open Competition" and there is more than one source for the product or service. We find that politically connected firms are 1.6% more likely to win noncompetitive contracts in the two years following a close election, relative to the two previous years. Lastly, column 4 investigates *Fewer bids*, which equals one if a firm receives contracts with fewer bids following a close election. The findings suggest that firms with connections are 1.9% more likely to win contracts with fewer bids.

Together these results portray a broader picture of the role of political influence in contracts. Beyond its effect on the allocation of contracts, political influence alters the governance mechanisms and the competitiveness of federal spending. We find that connected firms receive contracts with weaker monitoring and fewer performance-based awards, and that these contracts are less competitive.

5.3. Contract Renegotiation

After a contract is signed between a firm and the Federal Government, it can be renegotiated or altered. This presents an additional dimension through which political influence might affect the terms of contracts. Panel B of Table 1 highlights that renegotiation is frequently observed, with just under 73% of all contracts being adjusted. In this section, we focus on two prevailing forms of renegotiation: changes to a contract's amount and deadline extensions. For each variable, we measure the change in the two years following a close election, relative to the two preceding years, and estimate the specification in equation (2).

Table 4 studies whether political influence affects contract renegotiation. Column 1 reports the results for *Renegotiation*, which is an indicator variable that equals one if a firm

renegotiates for either an increase in the contract award or an extension of its due date. We find that connected firms are 2.5% more likely to successfully renegotiate their contracts in the two years following a close election, relative to the two prior years.

Next, we examine contract renegotiations through award changes or contract extensions. The dependent variable in column 2 is the indicator variable *Amount increase*, which equals one if a firm receives an increase in contract amount through contract renegotiations. We find that connected firms are 1.9% more likely to receive an increase.

Column 3 studies the magnitude of the amount modification. The dependent variable, *Amount change*, is the change in renegotiated awards (in millions of dollars) from two years before to two years after a close election. We find that political influence leads to an average award change of $26.6 million. This result is economically large, representing an increase of 60.7% relative to the median firm award in a given year.

The last dimension of renegotiation that we examine is whether connected firms receive deadline extensions. The dependent variable in column 4 is *Deadline extension*, which is defined as a binary variable that equals one if a firm receives an extension in the time to complete its contracts in the two years after a close election compared to the two preceding years. The results show that politically connected firms are 2.7% more likely to receive contract extensions.

The results in Table 4 show that political connections affect contractual agreements between firms and the Federal Government, even after a contract is signed. We find that connected firms successfully renegotiate contracts for dollar increases and extensions. This provides evidence on the expansive influence of political connections, extending from initial contract value and deadlines to contractual monitoring, competition and renegotiation.

5.4. Stimulus Contracts

In this subsection we study the allocation, design, and renegotiation of stimulus contracts awarded under the 2009 American Recovery and Reinvestment Act (ARRA). This setting exploits the exogenous increase in the supply of government contracts due to the ARRA to further mitigate concerns about the endogeneity of political activism. It also allows us to compare the role of political influence in routine contracts studied above and in non-routine contracts that were awarded under a special government stimulus program. Importantly, stimulus contracts are distinctly marked in our dataset. We can therefore separate their allocation and design from routine contracts.

Table 5 presents the evidence on stimulus contracts. Political influence, measured by *Net winners in close elections*, is measured during the 2008 election cycle immediately preceding the 2009 ARRA. The identifying assumption is that the ARRA was not anticipated by firms during the 2008 election cycle.

Panel A of Table 5 studies the allocation of stimulus contracts. Column 1 shows that connected firms were 3.8% more likely to receive stimulus contracts. Columns 2 and 3 show that firms with connections received 8.4 more contracts and won stimulus contract amounts that were, on average, $19.7 million larger.

Compared to the allocation of routine contracts (Table 3, Panel A), these estimates suggest that political influence plays a significantly stronger role in the allocation of non-routine contracts. In particular, the estimates in Panel A of Table 5 are 1.7 to 3.5 times larger compared to those in Panel A of Table 3. A possible explanation is that stimulus contracts were accompanied by very little oversight, providing politicians with greater discretion over their allocation and design.

Panel B of Table 5 investigates the design of stimulus contracts, focusing on governance and incentive mechanisms. We do not consider the competitiveness of the bidding process in this setting because the number of bids for stimulus contracts is miscoded as 0 or 999 for 45.6% of the contracts. We do not find a significant effect of political influence on the monitoring of stimulus contracts. However, we find that connected firms were 4.7% more likely to win stimulus contracts with weak pay-for-performance incentives. Compared to routine contracts (Table 3, Panel B, Column 2), the effect of political influence on pay-for-performance in stimulus contracts is 2.9 times larger.

Panel C of Table 5 studies the renegotiation of stimulus contracts. Connected firms are 2.9% more likely to successfully renegotiate stimulus contracts, 2.3% more likely to receive an increase in contract amount, and 2.0% more likely to receive a deadline extension. We do not find that political influence plays a more important role in the renegotiation of stimulus contracts compared to routine procurement contracts. One possible explanation is that the minimal oversight on the initial terms of stimulus contracts, which likely results from an expedited allocation process, does not carry over to contract renegotiations occurring after the stimulus program is completed.

Taken together, the results in this section are consistent with the evidence on the role of political connections in the non-routine allocation of emergency capital (e.g., Faccio, Masulis, and McConnell (2006) and Duchin and Sosyura (2012)), and provide direct evidence supporting the concerns of many macroeconomists that fiscal policy is implemented by political institutions and therefore influenced by political motives.

5.5. Robustness

We recognize that politicians differ in their ability to influence the procurement process. We therefore investigate campaign contributions to powerful politicians, defined as those politicians who are members of the Committee on Appropriations, Budget or Infrastructure in the House or Senate.[4] These committees offer their members substantial influence over the allotment of federal expenditures. We define *Net winners, powerful politicians* as the net connections to candidates in close elections serving on any of these committees.

Panel A of Table 2 shows that the average (median) firm in the sample is connected to 0.41 (0) powerful politicians in close elections. Since the average and median values of *Net winners, powerful politicians* are nearly zero or zero, this measure is largely free from the concern that the election outcome near the threshold is nonrandom.

Table 6 provides the results for powerful politicians. Panel A repeats the analysis from Panel A of Table 3 for powerful politicians. We find that all coefficients increase in magnitude relative to the baseline specification and are statistically significant at the 1% level or better. For example, column 1 reports that firms connected to powerful politicians are 7.2% more likely to win contracts, which is considerably larger than the estimate of 2.0% in column 1 of Table 3, Panel A.

Similarly, Panels B and C repeat the analyses in Panel B of Table 3 and Table 4, respectively, for powerful politicians. We find qualitatively similar results across all regressions. For example, column 1 of Panel B reports that firms connected to powerful politicians are 6.1% more likely to receive contracts with weaker monitoring. This point estimate is about three times larger than the estimate of 2.1% reported in Panel B of Table 3. Further, column 1 of Panel C finds that firms with connections to powerful politicians are 9.9% more likely to renegotiate an

[4] Data on committee membership is provided by Charles Stewart III at http://web.mit.edu/17.251/www/data_page.html.

increase in a contract's amount, which is larger than the estimate of 2.5% in Table 4.

Overall, these results suggest that politicians on committees having discretionary sway in federal spending have a markedly larger effect on the allocation, design, and renegotiation of government contracts compared to an average politician.

A potential concern is that the analysis is confounded by local economic conditions. Unobservable local economic activity might drive a firm's connections to local politicians and the allocation of contracts to a particular region. Additionally, local politicians might allocate contracts, and adjust their terms, in favor of local firms, which could confound a causal interpretation of political connections. These politicians might not influence the provision of contracts because of a firm's connections, but rather because of its location.

To address these concerns, we repeat the analysis above by excluding connections in the state of a firm's headquarters. We define *Net winners, distant politicians* as a firm's net connections in close elections to politicians outside of the state of the firm's headquarters. This measure removes local politicians from the construction of the connectedness shock to examine if the effect is driven by a firm's location. Panel A of Table 2 shows that the average (median) firm in the sample is connected to 0.73 (1) distant politicians in close elections.

We report the analyses for distant politicians in Table 7. Panel A of Table 7 repeats the analyses of contract allocation from Panel A of Table 3. We find that the estimates are nearly unchanged for contract increases and are slightly higher for contract counts and amounts. Panels B and C repeat the analyses in Panel B of Table 3 and Table 4, respectively. The economic magnitudes of the effects remain strikingly similar across all the regressions, with similar levels of statistical significance. Taken together, these results suggest that local factors do not drive the findings or contaminate the causal interpretation.

6. Operating Performance and Output

This section studies how contracts, and their terms, affect firm performance and output. First, we discuss the identification strategy for analyzing the effects of contracts. Next, we provide evidence on firm performance and the scale and novelty of innovation output, as measured by the number of patents and patent citations. We conclude by exploring the role of contractual monitoring and governance in firm outcomes.

6.1. *Identification Strategy for the Effects of Contracts*

To identify the effect of winning a contract on firm-level performance and innovation output, we use an instrumental variable (IV) approach, employing connections to politicians in close elections as an instrument for receiving contracts from the government. The empirical specification of these tests is:

$$Y_{ijt} = \alpha + \beta \cdot Contracts^{*}_{it} + \gamma \cdot \Delta X_{it} + \mu_t + \eta_j + \varepsilon_{ijt}, \quad (3)$$

where Y_{ijt} is the outcome of interest for firm *i* in election cycle *t*, $Contracts^{*}_{it}$ is the predicted value from the first-stage regression and X_{it} is a vector of firm-level controls, including *Market-to-book*, *R&D*, and *Sales*, depending on the model. All models control for unobserved, time-invariant industry heterogeneity (η_j), in addition to election-year fixed effects (μ_t). The main coefficient of interest is β, which captures the effect of receiving contracts on the outcome variable.

To satisfy the identification assumptions of this approach, contributions to net winning candidates in close elections and receiving contracts must be significantly correlated (inclusion). Further, contributions to net winning candidates in close elections must be uncorrelated with the error term of the true model (exclusion). We examine the inclusion restriction by testing whether

firms connected to politicians receive a statistically significant increase in contract allocation. Column 1 of Table 8 reports the first-stage results for the IV specification. We find that connected firms are 1.6% more likely to receive an increase in contracts in the two years following the close election.[5]

While we cannot test the exclusion restriction directly, we argue that it is likely satisfied due to the randomness around the close elections threshold. We provide suggestive evidence on the exclusion restriction through a placebo test that estimates the direct effect of contributions to net winners in close elections for firms that do not receive government contracts. As Columns 1-3 of Panel B in Table 8 show, we find no significant change in performance and innovation for these firms, consistent with our assertion that close elections operate primarily through government contracts.

6.2. *The Effects of Contract Allocation*

Columns 2-4 of Panel A, Table 8 report the second-stage estimates from the IV specifications on firm performance and innovation. Column 2 examines the effect of receiving an increase in contracts on operating performance. We measure operating performance as the average of return on assets (ROA) in the following two years. We find that, on average, connected firms have 4.3% higher ROA, relative to the sample mean.

Columns 3 and 4 study the effect of contract allocation on firm output. We measure firm output based on patenting activity as a measure of innovation. The focus on innovation is motivated by the stated goal of procurement contracts and government spending to spur innovation. In particular, the Bayh-Dole Act of 1980 granted non-profit organizations and small

[5] The first-stage coefficients reported in column 1 of Table 8 differ in magnitude from those reported in column 1 of Table 3, Panel A, because they are based on a linear probability model rather than a probit model.

businesses ownership of patents derived from contracts and provided the Federal Government royalty-free rights to the invention. Executive Order No. 12591 by President Reagan in 1987 extended the commercialization of patents to all government contractors. The United States Patent and Trademark Office (USPTO) issues patents and trademarks, in addition to providing comprehensive data on these forms of intellectual property.

Moreover, innovation is considered an important driver of long-term economic growth (Kogan et al. (2016)). While research and development (R&D) expenditure is a firm's allocation of capital towards innovative activity, it does not capture the productive output of its investment. Griliches (1990) demonstrates that patenting activity is a better measure of research productivity than R&D spending. Further, Hall, Jaffe and Trajtenberg (2005) highlight that patents alone do not indicate technological breakthroughs. Patent citations are a proxy of the value of a firm's innovations. We collect data on firm-level patent activity from the NBER dataset, expanded by Kogan et al. (2016). As Panel B of Table 2 shows, the average firm in the sample has 42.7 patents and 91.3 patent citations.

We measure firms' patenting activity as the number of patents and patent citations over the four years after receiving contracts. We expand the window from two years to four years to account for lags in patent grants of approximately two years (Seru (2014)). These tests are estimated using a negative binomial model to account for the over-dispersion in these variables.

We find that the allocation of contracts to politically connected firms enhances innovation. In particular, Column 3 of Panel A, Table 8 shows that connected firms' patent production increases by 17.9%, relative to the sample mean. Furthermore, Column 4 shows that connected firms' patent citations increase by 8.8%, relative to the sample mean.

Taken together, these results suggest that contracts have positive long-term consequences for firms. We find that firms receiving contracts have higher operating performance and provide evidence on one potential mechanism through which contracts foster long-term performance: the scale and novelty of the innovation activity undertaken by firms that win these contracts. These findings indicate that government contracts are an important channel through which political connections affect firm performance and patent production and novelty.

6.3. The Effects of Monitoring and Incentives

In the final set of analyses we study the role of contract design in firm performance and innovation. While political favoritism improves performance and promotes innovation activity through the allocation of contracts, some of these effects may be offset by loose contractual terms, which include poor monitoring and weak incentives that result from political favoritism.

To isolate the effect of contractual monitoring on firm outcomes we focus on firms that receive government contracts and are connected to net winning candidates in close elections. For this subset of firms, the tests exploit ex-post variation in contractual monitoring, holding constant both political influence and contract allocation. Thus, any residual differences in performance and innovation can be directly attributed to the monitoring features of the contracts rather than the allocation of the contracts themselves or the firm's political activism.

We use three measures of monitoring and incentives present within contracts, in addition to a composite index that aggregates these proxies. First, we identify contracts with terms that monitor the timeliness and quality of execution. Second, we identify contracts with clear incentives, specifically performance-based acquisition methods, which benchmark contract completion and compensate firms for meeting pre-specified standards. Lastly, we measure the

distance between the firm and Washington, DC, as a measure of complexity in supervising contract performance. We construct a composite index based on the ranked average of these three monitoring measures and normalize the index to the unit interval.

Table 9 examines the relation between firm-level outcomes and contract-level monitoring. For each measure we construct an indicator variable for firms in the top tercile of the distribution. Panel A studies operating performance, defined as ROA over the two years following the election. We find that performance increases with monitoring and incentives. The economic magnitudes are similar across the different measures, and all the estimates are statistically significant at the 5% level. Based on column 1 of Panel A, for example, the ROA of firms in the top monitoring tercile is 2.6% higher than the ROA of firms in the lower terciles.

Panel B of Table 9 examines the relation between monitoring and incentives, and innovation output. We find consistent estimates across most measures. Based on column 4 of Panel B, for example, firms in the top tercile of the composite index produce 1.6 more patents than firms in the lower terciles. Panel C focuses on patent citations. We find that better monitoring and incentives correspond to higher citations for three of the four measures. Based on column 2 of Panel C, for example, firms in the top tercile of the index have 1.6 more patent citations than firms in the lower terciles.

Taken together, the results in this section provide a more nuanced, two-tiered view on the role of government contracts and political influence in firm performance and output. On the one hand, access to government contracts improves operating performance and innovation. However, conditional on receiving government contracts, the weaker monitoring terms and incentives in government contracts that result from political influence erode performance and innovation output.

7. Conclusion

Using hand-collected data on government contracts awarded to public U.S. firms, this article investigates how political influence impacts the allocation, design, and outcomes of government contracts. We find that political influence enhances firms' access to government contracts by increasing the likelihood of receiving a contract and by improving the terms of the awarded contracts and the prospects of favorable contract renegotiations. The role of political influence is even stronger in non-routine stimulus contracts that were awarded under the 2009 American Recovery and Reinvestment Act.

In the analysis of firm performance and innovation output, we uncover a more subtle, dual effect of political influence and contract design on firm outcomes. While the improved access to government promotes innovative activity and enhances operating performance, the weaker governance mechanisms that result from political influence exacerbate agency problems, partially undoing the increases in performance and innovation output.

Appendix A. Variable definitions and data construction

Section 1 of Appendix A describes the construction of the variables. Section 2 details the procedure for matching contract data to Compustat firms. Section 3 describes how we link firms' campaign contributions to political candidates.

A.1. Variable definitions

This section defines the main variables of the paper and their construction, providing the Compustat definition where applicable. U.S. federal contract data is from the Federal Procurement Data System (FPDS) and retrieved from USAspending.gov. We restrict the sample to those contracts whose total award, including any modifications after signing, is at least $1 million. We define a unique contract based on the combination of the PIID (unique FPDS identifier), DUNS number and department of the federal agency, and drop any contract with 100 or more modifications after signing. Additionally, we drop contracts with a negative or zero initial award or if, at the initial signing of the contract, the current completion date is earlier than the date of the initial award. Stimulus contracts are identified using the *Description of Contract Requirement* variable, which contains a brief description of the goods and services bought. This variable contains a code for stimulus contracts in the form TAS::XX XXXX XXX::TAS or TAS::XX XXXX::TAS.[6]

Patent data is provided by Kogan et al. (2016), which builds on the NBER patent data matched to Compustat firms. The underlying patent data is provided by the United States Patent and Trademark Office (USPTO). Campaign contributions and election data is from the Federal Election Commission (FEC).

[6] Additional details are available at: https://www.fpds.gov/fpdsng_cms/index.php/en/newsroom/5-arra.html.

Variable Name	Description	Source
Contract increase	A binary variable equaling one if a firm receives an increase in the total dollar amount of its contracts in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov
Δ Number of contracts	Change in the number of contracts awarded in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov
Δ Contract amount	Difference in amount of contracts awarded ($mil.) in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov
Weaker monitoring	A binary variable equaling one if a firm receives contracts with fewer monitoring features in the two years following a close election compared to the two years preceding a close election. Contracts with monitoring features are defined as those contracts whose type is code B ("Fixed Price Level of Effort"), L ("Fixed Price Incentive"), M ("Fixed Price Award Fee"), V ("Cost Plus Incentive"), R ("Cost Plus Award Fee") or U ("Cost Plus Fixed Fee").	FPDS through USASpending.gov
Lower pay-for-performance	A binary variable equaling one if a firm receives contracts with fewer performance-based awards in the two years following a close election compared to the two years preceding a close election. Performance contracts are defined as those contracts whose acquisition method is "Performance Based."	FPDS through USASpending.gov
Weaker competition	A binary variable equaling one if a firm receives noncompetitive contracts in the two years following a close election compared to the two years preceding a close election. Contracts are defined as competitive if the extent of competition is "Full and Open Competition" and there is more than one source for the product or service.	FPDS through USASpending.gov
Fewer bids	A binary variable equaling one if a firm receives contracts with fewer bids in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov
Renegotiation	A binary variable equaling one if a firm renegotiates a contract for an increase in its award or for an extension in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov

Variable Name	Description	Source
Award increase	A binary variable equaling one if a firm receives an increase in renegotiated contracts awarded in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov
Award change	Change in amount of renegotiated contracts awarded ($mil.) in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov
Deadline extension	A binary variable equaling one if a firm receives an extension in the time to complete a contract in the two years following a close election compared to the two years preceding a close election.	FPDS through USASpending.gov
Net winners in close elections	The number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%.	Federal Election Commission
Net winners, powerful politicians	The number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%, for politicians serving on the Committee on Appropriations, Budget or Transportation and Infrastructure in the Senate or the House.	Charles Stewart's Website, Federal Election Commission
Net winners, distant politicians	The number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%, for politicians not from the state of a firm's headquarters.	Compustat, Federal Election Commission
Size	The natural log of firm assets.	Compustat (*at*)
Market-to-book	The market value of the firm's equity and its book value of debt relative to its assets.	Compustat (*at – ceq + (prcc_f*csho))/at*)
HHI	Herfindalh-Hirschman Index based on sales for the industry (at the SIC level).	Compustat
CAPX	Capital expenditures relative to the firm's assets.	Compustat (*capx/at*)
COGS	The cost of goods sold divided by the firm's sales.	Compustat
Sales	The gross sales of the firm.	Compustat (*sale*)
R&D	The ratio of R&D expense to assets, where R&D is set to zero if missing.	Compustat (*xrd/at*)
Return on assets	Net income over assets.	Compustat (*ib/at*)
Number of patents	The number of patents awarded in a year.	Kogan et al. (2016) & NBER Patent Data
Patent citations	The number of patent citations in a year.	Kogan et al. (2016) &NBER Patent Data

A.2. Matching contracts to Compustat firms

In this section, we detail the matching procedure to combine U.S. Federal Government contracts from FPDS with Compustat. The FPDS data does not contain a unique identifier that can be matched directly to common unique identifiers, such as GVKEY or PERMNO. The data does contain the parent company name for each vendor. We use this field to match the FPDS with Compustat company names based on the following process. For each firm in Compustat, we compute the Levenshtein distance between the company name in Compustat and each parent company name in FPDS, after removing punctuation and common characters and phrases. The Levenshtein distance is a method of computing the difference between two strings. This distance is approximately a count of the number of edits necessary to change one string into the other string. The Levenshtein ratio is calculated as $(1 - L/S)$, where L is the Levenshtein distance and S is the length of the longest word. This process computes the Levenshtein distance and ratio for 13,867 Compustat names, each matched with 528,056 parent company names in FPDS. We keep all matches above a Levenshtein ratio of 0.95 and the next closest match after this cutoff. We hand check each match of a Compustat company name with an FPDS parent company name to decide whether it is appropriate. We determine this based on name similarity, Hoovers database (which provides company information by DUNS number) and internet searches. This leads to 7,432 matches between Compustat company names and FPDS parent company names.

A.3. Linking campaign contributions to Compustat firms

This section describes how we match campaign contributions from Compustat firms to political candidates running for office in the U.S. Congress. Similar to the contracts data, contributions data from the FEC does not provide a unique identifier to link records to Compustat. The FEC

data contains the connected organization of a political action committee (PAC). We match this field with Compustat company names using the Levenshtein distance described in Section A.2. If a PAC's connected organization is missing, we set it equal to the committee name. Similar to above, we remove punctuation and common characters and phrases from the company names in FEC and Compustat data. Note that a firm can be linked to more than one PAC. We hand check each match between a Compustat company name and a political action committee to determine whether it is appropriate, based on name similarity and location. This procedure leads to 1,382 matches of PACs for 1,200 Compustat firms.

Appendix B. Example of Political Influence and Contracts

Randall "Duke" Cunningham was elected to the House of Representatives for California's 50th Congressional district from 1991 to 2005. He served on the Appropriations Subcommittee on Defense of the House from 1997 until his resignation on December 1, 2005. Mitchell Wade owned MZM, Inc. and, based on findings of the Department of Justice, grew his firm using bribes and illegal campaign contributions to Congressmen, in addition to offering favors to Department of Defense officials (U.S. Department of Justice, 2006). Wade provided Cunningham with monetary and non-pecuniary gifts, including checks, cash, use of a Rolls Royce, purchased Cunningham's house above market price and provided a yacht anchored in the Potomac, which he referred to as the "Duke-Stir." In return for these gifts, MZM, Inc. was awarded government contracts, which included a "blanket-purchase agreement" for $225 million in September 2002. This type of agreement is similar to a charge account and allowed MZM, Inc. to bypass competitive bidding on its contracts. The figure below details a "bribe menu" offered by Cunningham in return for receiving these contracts (Eckert, 2006). It is written on

Congressional stationary and details the dollar value of contracts received for the bribes provided. The first entry offers $16 million in contracts for $140,000 in bribes, where “BT” stands for “Buoy Toy” and represents the boat purchased for Cunningham. The following entries detail marginal bribe offers. For example, the second row offers an increase from $16 million to $17 million in contracts for an increase in bribes of $50,000. Similarly, the final row provides $25 million in contracts, relative to $24 million, for an additional amount of $25,000 in bribes.

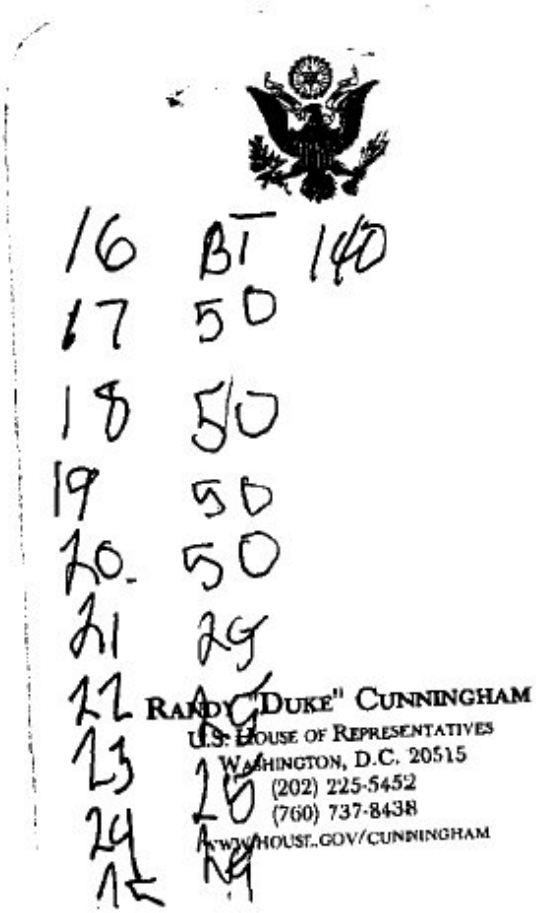

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Table 1
Contracts

This table provides summary statistics for contracts from the U.S. Federal Government to all firms in Compustat from 2001 to 2010, excluding financial firms (SIC 6000-6999) and regulated utilities (SIC 4900-4999). Panel A summarizes the sample of contracts at initiation, Panel B details contract renegotiations and Panel C highlights contracts by industry at the Fama-French 12-industry level (excluding financial firms and regulated utilities). In Panel A, *Initial contract amount* is the contract award at signing (in millions of dollars) and *Total contract amount* is the total contract award (in millions of dollars), including any award changes. *Length* is the initial length of the contract (in years). *Monitoring* is an indicator that equals one when the government monitors the timeliness and quality of contract completion and zero otherwise. *Pay-for-performance* is an indicator that equals one if a contract uses performance-based acquisition methods and zero otherwise. *Competitive bidding* is an indicator that equals one if the extent of competition is "Full and Open Competition" and there is more than one source for the product or service. *Number of bids* is the number of bids that were submitted for a contract. In Panel B, *Contract renegotiation indicator* equals one if a contract is renegotiated and *Number of contract changes* is the number of changes to a contract. *Contract amount change* is the total change in the award after signing relative to the total contract award (in percent). *Contract amount increase* is the average increase of a renegotiated contract (in millions of dollars) and *Contract amount decrease* is the average decrease of a renegotiated contract (in millions of dollars), conditional on an award change. *Deadline extension* is the mean change in the completion date of a contract (in years), conditional on a contract being renegotiated. In Panel C, *Average contract amount* is the mean contract total amount (in millions of dollars) and *Total contracts value* is the total amount of contracts awarded to the industry (in millions of dollars). Appendix A.1 provides additional information on variable definitions.

Panel A: Initiation

Variable	Number of observations	Mean	Median	Minimum	Maximum	Standard deviation
Initial contract amount ($mil.)	82,771	4.007	1.343	0.000	1,746.286	18.881
Total contract amount ($ mil.)	82,771	12.114	2.769	1.000	10,006.420	82.618
Length	82,771	1.149	0.948	0.000	6.778	1.248
Monitoring indicator	82,771	0.186	0.000	0.000	1.000	0.389
Pay-for-performance indicator	82,771	0.198	0.000	0.000	1.000	0.398
Competitive bidding indicator	82,771	0.668	1.000	0.000	1.000	0.471
Number of bids	82,771	4.642	1.000	1.000	51.000	9.296

Panel B: Renegotiation

Variable	Number of observations	Mean	Median	Minimum	Maximum	Standard deviation
Contract renegotiation indicator	82,771	0.728	1.000	0.000	1.000	0.445
Number of contract changes	82,771	5.706	2.000	0.000	99.000	9.383
Contract amount change (%)	82,771	35.558	20.000	-18.449	99.883	38.483
Contract amount increase ($ mil.)	60,611	1.356	0.517	0.005	18.492	2.639
Contract amount decrease ($ mil.)	27,799	-0.348	-0.076	-6.029	0.000	0.855
Deadline extension (years)	68,585	0.734	0.540	-2.984	6.778	1.002

Panel C: Industry Composition

Industry	Number of contracts	Average contract amount	Minimum contract amount	Maximum contract amount	Standard deviation of contract amount	Total contracts value
Consumer nondurables	2,991	5.946	1.000	277.79	11.544	17,785
Consumer durables	1,104	21.174	1.000	1,451.21	85.909	23,377
Manufacturing	22,238	17.902	1.000	10,006.42	126.505	398,106
Oil, gas and coal	516	43.682	1.001	7,187.74	335.500	22,540
Chemicals and allied products	507	9.653	1.003	153.30	18.421	4,894
Business equipment	33,160	10.366	1.000	2,651.19	43.488	343,743
Telephone and television	1,655	5.175	1.001	332.74	15.341	8,564
Wholesale, retail and services	5,948	6.812	1.000	489.42	22.049	40,516
Healthcare and drugs	1,066	16.041	1.000	1,327.37	101.573	17,100
Other	13,586	9.280	1.000	6,062.15	68.364	126,074

Table 2
Summary Statistics

This table reports summary statistics for political influence and firm-level outcomes for all firms in Compustat between election years 2002 and 2008 and who contributed to a politician in a close election, excluding financial firms (SIC 6000-6999) and regulated utilities (SIC 4900-4999). Panel A summarizes political influence and Panel B describes firm-level outcomes. *Net winners in close elections* is the number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%. *Net winners, powerful politicians* is defined as *Net winners in close elections* for politicians serving on the Committee on Appropriations, Budget or Infrastructure in the Senate or the House. *Net winners, distant politicians* is defined as *Net winners in close elections* for politicians in a different state than the firm's headquarters. *Size* is the natural log of firm assets. *Market-to-book* is the market value of the firm's equity and its book value of debt relative to the firm's assets. *HHI* is the Herfindahl-Hirschman Index of *Sales* for the industry (at the SIC level). *CAPX* is capital expenditures relative to the firm's assets. *COGS* is cost of goods sold divded by the firm's sales. *Return on assets* is measured as net income over total assets of the firm. *R&D* is research and development over total assets. *Sales* is gross sales. *Market-to-book* and *Return on assets* are winsorized at the 1% level in each tail. *Number of patents* is the number of patents awarded to the firm in a year and *Patent citations* is the sum of citations awarded to a firm in a year. *Contract indicator* equals one if firm receives at least one contract during a given year. *Total contract amount* is the total amount of awards (in millions of dollars) to a firm in a particular year and *Initial contract amount* is the initial amount of awards at signing (in millions of dollars) to a firm in a particular year. *Average contract length* is the average contract length (in years) at contract signing. *Monitoring* is the value-weighted percent of contract awards with monitoring features, *Pay-for-performance* is the value-weighted percent of contract awards with performance-based acquisition methods, and *Competition* is the value-weighted percent of contract awards with competitive bidding. *Number of bids* is the value-weighted number of offers received for a contract. *Contract amount change* is the average percent change in contract award and *Deadline extension* is the average contract extension. Contract amount, terms, and renegotiation variables are based only on those firms receiving contracts. Appendix A.1 provides additional information on variable definitions.

Panel A: Political Influence

Variable	Number of observations	Mean	Median	Minimum	Maximum	Standard deviation
Net winners in close elections	1,099	0.845	1.000	-9.000	17.000	2.882
Net winners, powerful politicians	1,099	0.409	0.000	-2.000	5.000	0.974
Net winners, distant politicians	1,099	0.727	1.000	-9.000	16.000	2.749

Panel B: Firm-level Outcomes

Variable	Number of observations	Mean	Median	Minimum	Maximum	Standard deviation
Size	1,099	8.730	8.832	0.885	13.587	1.612
Market-to-book	1,099	1.819	1.518	0.813	5.801	0.908
HHI	1,099	0.324	0.249	0.057	1.000	0.233
CAPX	1,099	0.077	0.040	0.000	1.876	0.143
COGS	1,099	0.644	0.699	0.056	1.894	0.221
Return on assets	1,099	0.044	0.048	-0.354	0.250	0.081
R&D	1,099	0.019	0.001	0.000	0.165	0.034
Sales	1,099	16,463.144	5,492.183	2.142	406,103.000	33,198.406
Number of patents	1,099	42.715	0.000	0.000	2,803.000	182.738
Patent citations	1,099	91.305	0.000	0.000	8,494.000	504.321
Contract indicator	1,099	0.353	0.000	0.000	1.000	0.478
Total contract amount	388	829.882	43.783	1.000	19,354.355	2,199.794
Initial contract amount	388	267.981	27.970	0.005	5,867.765	679.204
Monitoring	388	8.771	0.000	0.000	100.000	18.576
Pay-for-performance	388	11.406	0.000	0.000	100.000	23.951
Competition	388	54.806	58.228	0.000	100.000	40.110
Number of bids	388	4.185	2.275	1.000	51.000	6.778
Contract amount change (%)	388	7.382	3.106	-100.000	99.657	14.299
Deadline extension (years)	388	0.859	0.578	-3.559	53.521	3.010

Table 3
Political Influence and Contracts

This table examines how political influence affects the allocation and design of contracts awarded by the U.S. Federal Government. Panel A studies the effect of political connections on contract awards. *Contract increase* is an indicator that equals one if a firm receives an increase in the total dollar amount of its contracts in the two years following a close election compared to the two years preceding a close election. *ΔNumber of contracts* is the change in the number of contracts awarded in the two years following a close election compared to the two years preceding a close election. *ΔContract amount* is the difference in the contracts awarded (in millions of dollars) in the two years following a close election compared to the two years preceding a close election. Panel B explores how political connections affect the design of contracts received from the U.S. Federal Government, subsetting to those firms winning contracts in the sample. *Weaker monitoring* equals one if a firm receives contracts with less monitoring in the two years following a close election compared to the two years preceding a close election. *Lower pay-for-performance* equals one if a firm receives contracts with less performance-based awards in the two years following a close election compared to the two years preceding a close election. *Weaker competition* equals one if a firm receives contracts with less competition in the two years following a close election compared to the two years preceding a close election. *Fewer bids* equals one if a firm receives contracts with fewer bids in the two years following a close election compared to the two years preceding a close election. *Net winners in close elections* is the number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%. *Market-to-book* is the market value of the firm's equity and its book value of debt relative to the firm's assets. *Market-to-book* is winsorized at the 1% level in each tail. *HHI* is the Herfindahl-Hirschman Index of *Sales* for the industry (at the SIC level). *CAPX* is capital expenditures relative to the firm's assets. *COGS* is cost of goods sold divided by the firm's sales. All control variables are measured as the change in the average in the two years following a close election compared to the two years preceding a close election. Industries are defined at the two-digit SIC level. All models include year and industry fixed effects and an intercept term. Probit specifications (model 1 of Panel A and all models of Panel B) report marginal effects at *Net winners in close elections*=1. Standard errors are reported in parentheses and clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Allocation of Contracts

Dependent variable	Contract increase	ΔNumber of contracts	ΔContract amount
Model	(1)	(2)	(3)
Net winners in close elections	0.020***	2.442**	11.686*
	(0.007)	(1.114)	(6.091)
Δ Size	0.059	1.571	-2.132
	(0.059)	(4.792)	(24.873)
Δ Market-to-book	-0.020	-5.680	-14.140
	(0.031)	(4.110)	(20.005)
Δ HHI	-0.141	26.534	68.988
	(0.318)	(25.485)	(126.587)
Δ CAPX	0.111	-5.504	-14.243
	(0.245)	(7.472)	(32.735)
Δ COGS	-0.111	22.038*	106.741*
	(0.182)	(13.313)	(61.073)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Pseudo-R^2	0.105	0.057	0.056
Observations	935	1,099	1,099

Table 3 (Continued)

Panel B: Contract Design

Dependent variable	Weaker monitoring	Lower pay-for-performance	Weaker competition	Fewer bids
Model	(1)	(2)	(3)	(4)
Net winners in close elections	0.021**	0.016**	0.016**	0.019**
	(0.009)	(0.007)	(0.008)	(0.008)
Δ Size	0.060	0.047	-0.065	-0.097
	(0.077)	(0.069)	(0.081)	(0.095)
Δ Market-to-book	0.055	0.102**	-0.084	-0.023
	(0.043)	(0.045)	(0.053)	(0.054)
Δ HHI	-0.824	-0.339	0.386	0.888*
	(0.617)	(0.654)	(0.508)	(0.534)
Δ CAPX	-0.303	-0.011	0.078	0.376
	(0.226)	(0.302)	(0.243)	(0.350)
Δ COGS	-0.036	0.197	0.590**	0.753**
	(0.229)	(0.276)	(0.294)	(0.347)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo-R^2	0.134	0.117	0.128	0.045
Observations	395	413	497	511

Table 4
Renegotiation

This table explores how political connections affect contract renegotiation. *Renegotiation* is an indicator variable equaling one if a firm renegotiates a contract for an increase in its award or for an extension in the two years following a close election compared to the two years preceding a close election. *Amount increase* is an indicator variable equaling one if a firm receives an increase in renegotiated contracts awarded in the two years following a close election compared to the two years preceding a close election. *Amount change* is the change in renegotiated contracts awarded (in millions of dollars) in the two years following a close election compared to the two years preceding a close election. *Deadline extension* equals one if a firm receives an extension in the time to complete a contract in the two years following a close election compared to the two years preceding a close election. *Net winners in close elections* is the number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%. *Size* is the natural log of firm assets. *Market-to-book* is the market value of the firm's equity and its book value of debt relative to the firm's assets. *Market-to-book* is winsorized at the 1% level in each tail. *HHI* is the Herfindahl-Hirschman Index of *Sales* for the industry (at the SIC level). *CAPX* is capital expenditures relative to the firm's assets. *COGS* is cost of goods sold divided by the firm's sales. All control variables are measured as the change in the average in the two years following a close election compared to the two years preceding a close election. Industries are defined at the two-digit SIC level. All models include year and industry fixed effects and an intercept term. Probit specifications (models 1, 2 and 4) report marginal effects at *Net winners in close elections*=1. Standard errors are reported in parentheses and clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent variable	Renegotiation	Amount increase	Amount change	Deadline extension
Model	(1)	(2)	(3)	(4)
Net winners in close elections	0.025***	0.019***	26.625**	0.027***
	(0.007)	(0.007)	(12.105)	(0.007)
Δ Size	0.047	-0.003	-22.978	0.066
	(0.071)	(0.066)	(69.850)	(0.067)
Δ Market-to-book	-0.060*	-0.072**	-5.159	-0.051
	(0.035)	(0.032)	(27.229)	(0.034)
Δ HHI	-0.231	0.123	-229.804	-0.307
	(0.222)	(0.321)	(278.612)	(0.230)
Δ CAPX	-0.007	0.249	19.323	-0.069
	(0.126)	(0.203)	(53.628)	(0.113)
Δ COGS	0.151	0.151	217.086	0.114
	(0.209)	(0.192)	(146.707)	(0.196)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo-R^2	0.151	0.093	0.052	0.179
Observations	932	923	1,099	928

Table 5
Stimulus Contracts

This table examines how political influence affects the allocation, design, and renegotiation of stimulus contracts awarded under the American Recovery and Reinvestment Act of 2009 (ARRA). Panels A and B repeat the analyses from Table 3, and Panel C repeats the analyses from Table 4. *Net winners in close elections* is the number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%. Industries are defined at the two-digit SIC level. All models include industry fixed effects and an intercept term. Probit specifications (Panel A, model 1; Panel B, all models; Panel C, models 1, 2 and 4) report marginal effects at *Net winners in close elections*=1. Standard errors are reported in parentheses. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Allocation of Contracts

Dependent variable	Contract increase	ΔNumber of contracts	ΔContract amount
Model	(1)	(2)	(3)
Net winners in close elections	0.038***	8.436***	19.717*
	(0.011)	(2.866)	(11.093)
Δ Size	-0.090	16.531	-206.175
	(0.134)	(33.703)	(130.460)
Δ Market-to-book	-0.134**	-0.711	-22.562
	(0.064)	(12.013)	(46.500)
Δ HHI	0.481	-23.768	148.554
	(0.549)	(139.333)	(539.346)
Δ CAPX	0.179	-14.029	39.410
	(1.133)	(108.830)	(421.272)
Δ COGS	-0.771	-18.805	59.018
	(0.676)	(96.059)	(371.835)
Industry fixed effects	Yes	Yes	Yes
Pseudo-R^2	0.195	0.192	0.186
Observations	262	319	319

Panel B: Contract Design

Dependent variable	Weaker monitoring	Lower pay-for-performance
Model	(1)	(2)
Net winners in close elections	-0.000	0.047**
	(0.018)	(0.020)
Δ Size	-0.265	-0.212
	(0.227)	(0.224)
Δ Market-to-Book	-0.185**	-0.125
	(0.089)	(0.099)
Δ HHI	0.750	0.349
	(0.886)	(1.065)
Δ CAPX	3.196	0.246
	(2.618)	(2.267)
Δ COGS	1.874	2.136
	(1.582)	(1.692)
Industry fixed effects	Yes	Yes
Pseudo-R^2	0.112	0.112
Observations	97	111

Table 5 (Continued)

Panel C: Renegotiation

Dependent variable	Renegotiation	Amount increase	Amount change	Deadline extension
Model	(1)	(2)	(3)	(4)
Net winners in close elections	0.029**	0.023*	4.830	0.020*
	(0.012)	(0.012)	(3.039)	(0.012)
Δ Size	-0.230	-0.324**	-24.005	-0.227
	(0.154)	(0.156)	(35.734)	(0.151)
Δ Market-to-book	-0.088	-0.046	-11.017	-0.079
	(0.072)	(0.072)	(12.737)	(0.071)
Δ HHI	-0.299	-0.374	-9.107	-0.687
	(0.607)	(0.673)	(147.731)	(0.663)
Δ CAPX	0.508	0.775	-1.327	0.414
	(1.336)	(1.263)	(115.389)	(1.301)
Δ COGS	2.366**	1.907*	68.353	1.967**
	(1.026)	(1.016)	(101.848)	(0.996)
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo-R^2	0.177	0.133	0.086	0.172
Observations	226	222	319	226

Table 6
Powerful Politicians

This table studies how powerful connections affect contract allocation, design and their renegotiation. Panel A repeats the analysis from Table 3, Panel A, on contract awards, Panel B repeats the analysis from Table 3, Panel B, studying contract design, and Panel C repeats the analysis from Table 4 on contract renegotiation. These tables and Appendix A.1 provide variable definitions. *Net winners, powerful politicians* is the number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%, for powerful politicians, as defined in Table 2 and in Appendix A.1. Industries are defined at the two-digit SIC level. All models include year and industry fixed effects and an intercept term. Probit specifications (Panel A, model 1; Panel B, all models; Panel C, models 1, 2 and 4) report marginal effects at *Net winners, powerful politicians*=1. Standard errors are reported in parentheses and clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Allocation of Contracts

Dependent variable	Contract increase	ΔNumber of contracts	ΔContract amount
Model	(1)	(2)	(3)
Net winners, powerful politicians	0.072***	14.407***	71.483***
	(0.019)	(4.932)	(24.868)
Δ Size	0.061	1.689	-1.422
	(0.062)	(4.783)	(24.167)
Δ Market-to-book	-0.020	-4.691	-9.112
	(0.032)	(3.958)	(19.484)
Δ HHI	-0.117	29.590	83.950
	(0.350)	(25.578)	(128.993)
Δ CAPX	0.125	-4.986	-11.711
	(0.261)	(7.585)	(34.577)
Δ COGS	-0.060	30.448*	148.900**
	(0.188)	(16.025)	(74.191)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Pseudo-R^2	0.109	0.077	0.076
Observations	935	1,099	1,099

Panel B: Contract Design

Dependent variable	Weaker monitoring	Lower pay-for-performance	Weaker competition	Fewer bids
Model	(1)	(2)	(3)	(4)
Net winners,	0.061**	0.048*	0.063**	0.062**
powerful politicians	(0.030)	(0.026)	(0.027)	(0.026)
Δ Size	0.058	0.050	-0.064	-0.098
	(0.079)	(0.072)	(0.081)	(0.094)
Δ Market-to-book	0.059	0.112**	-0.078	-0.019
	(0.046)	(0.049)	(0.054)	(0.055)
Δ HHI	-0.943	-0.440	0.406	0.899*
	(0.653)	(0.667)	(0.518)	(0.539)
Δ CAPX	-0.289	0.059	0.078	0.370
	(0.220)	(0.324)	(0.243)	(0.350)
Δ COGS	0.000	0.265	0.625**	0.769**
	(0.238)	(0.290)	(0.293)	(0.347)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo-R^2	0.134	0.118	0.131	0.045
Observations	395	413	497	511

Table 6 (Continued)

Panel C: Renegotiation

Dependent variable	Renegotiation	Amount increase	Amount change	Deadline extension
Model	(1)	(2)	(3)	(4)
Net winners,	0.099***	0.079***	187.240**	0.100***
powerful politicians	(0.019)	(0.020)	(73.610)	(0.019)
Δ Size	0.046	-0.002	-19.997	0.066
	(0.069)	(0.068)	(67.767)	(0.066)
Δ Market-to-book	-0.053	-0.070**	9.109	-0.045
	(0.035)	(0.033)	(26.980)	(0.034)
Δ HHI	-0.164	0.184	-192.475	-0.243
	(0.224)	(0.339)	(269.924)	(0.224)
Δ CAPX	0.008	0.284	25.574	-0.053
	(0.121)	(0.214)	(63.553)	(0.108)
Δ COGS	0.219	0.222	331.495*	0.181
	(0.208)	(0.198)	(189.157)	(0.195)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo-R^2	0.160	0.100	0.091	0.187
Observations	932	923	1,099	928

Table 7
Distant Politicians

This table provides a robustness test by exploring distant political connections, defined as connections outside of the state of the firm's headquarters. Panel A repeats the analysis from Table 3, Panel A, on contract awards, Panel B repeats the analysis from Table 3, Panel B, studying contract design, and Panel C repeats the analysis from Table 4 on contract renegotiation. These tables and Appendix A.1 provide variable definitions. *Net winners*, *distant politicians* is the number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%, for out-of-state political connections. Industries are defined at the two-digit SIC level. All models include year and industry fixed effects and an intercept term. Probit specifications (Panel A, model 1; Panel B, all models; Panel C, models 1, 2 and 4) report marginal effects at *Net winners*, *distant politicians*=1. Standard errors are reported in parentheses and clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Allocation of Contracts

Dependent variable	Contract increase	ΔNumber of contracts	ΔContract amount
Model	(1)	(2)	(3)
Net winners, distant politicians	0.019***	2.986**	13.890**
	(0.007)	(1.324)	(6.968)
Δ Size	0.055	1.000	-4.881
	(0.059)	(4.877)	(25.345)
Δ Market-to-book	-0.020	-5.612	-13.911
	(0.031)	(4.086)	(19.931)
Δ HHI	-0.131	26.075	67.007
	(0.323)	(25.506)	(126.088)
Δ CAPX	0.115	-5.166	-12.640
	(0.248)	(7.357)	(32.732)
Δ COGS	-0.111	22.202	107.179*
	(0.182)	(13.579)	(61.908)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Pseudo-R^2	0.104	0.060	0.059
Observations	935	1,099	1,099

Panel B: Contract Design

Dependent variable	Weaker monitoring	Lower pay-for-performance	Weaker competition	Fewer bids
Model	(1)	(2)	(3)	(4)
Net winners,	0.023***	0.013*	0.021***	0.021***
distant politicians	(0.009)	(0.007)	(0.008)	(0.008)
Δ Size	0.058	0.046	-0.066	-0.098
	(0.077)	(0.069)	(0.082)	(0.095)
Δ Market-to-book	0.058	0.103**	-0.082	-0.021
	(0.043)	(0.046)	(0.053)	(0.054)
Δ HHI	-0.783	-0.333	0.404	0.902*
	(0.622)	(0.661)	(0.506)	(0.533)
Δ CAPX	-0.296	0.001	0.081	0.372
	(0.220)	(0.303)	(0.240)	(0.345)
Δ COGS	-0.022	0.206	0.599**	0.762**
	(0.227)	(0.274)	(0.298)	(0.344)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo-R^2	0.136	0.115	0.132	0.046
Observations	395	413	497	511

Table 7 (Continued)

Panel C: Renegotiation

Dependent variable	Renegotiation	Amount increase	Amount change	Deadline extension
Model	(1)	(2)	(3)	(4)
Net winners,	0.027***	0.025***	31.902**	0.029***
distant politicians	(0.007)	(0.007)	(14.499)	(0.007)
Δ Size	0.043	-0.007	-29.233	0.062
	(0.071)	(0.067)	(71.133)	(0.068)
Δ Market-to-book	-0.059*	-0.069**	-4.574	-0.049
	(0.036)	(0.032)	(26.991)	(0.034)
Δ HHI	-0.234	0.124	-234.452	-0.310
	(0.221)	(0.322)	(277.518)	(0.229)
Δ CAPX	-0.002	0.252	22.984	-0.063
	(0.125)	(0.199)	(51.681)	(0.111)
Δ COGS	0.155	0.155	218.305	0.117
	(0.209)	(0.194)	(148.842)	(0.196)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo-R^2	0.152	0.098	0.056	0.180
Observations	932	923	1,099	928

Table 8
Operating Performance and Innovative Output

Using an instrumental variable approach, this table studies the relation between contracts and firm performance and innovation. Panel A details the first-stage estimated and IV results. Column (1) reports the first-stage estimates using *Net winners in close elections* as an instrument for receiving an increase in contracts, where *Net winners in close elections* is the number of winners minus the number of losers that a firm contributes to in close elections during an election cycle, where a close election is defined as a margin of victory of less than 5%. C*ontracts indicator* equals one if a firm receives an increase in the contracts awarded in the two years following a close election compared to the two years preceding a close election, and * indicates the predicted value from the first stage. The dependent variable in Column (2) is the average return on assets in the following two years, Column (3) is the number of patents awarded over the following four years and Column (4) is the sum of citations of patents received in the following four years. Panel B explores placebo tests for operating performance and innovative output. *Market-to-book* is the market value of the firm's equity and its book value of debt relative to the firm's assets. *R&D* is the ratio of R&D expense to assets. *Sales* is the gross sales of the firm. *Return on assets* and *Market-to-book* is winsorized at the 1% level in each tail. All control variables are lagged by one year. Industries are defined at the two-digit SIC level. All models include year and industry fixed effects and an intercept term. Standard errors are reported in parentheses and clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: IV Specifications

Dependent variable	First stage	Performance	Patents	Citations
Model	(1)	(2)	(3)	(4)
Net winners in close elections	0.016***			
	(0.006)			
Contracts indicator*		0.118*	7.661**	8.111**
		(0.063)	(3.802)	(3.898)
Lagged Market-to-book	0.004	0.027***	0.118	0.187
	(0.014)	(0.006)	(0.138)	(0.166)
Lagged R&D			15.008***	15.680***
			(4.860)	(5.106)
Lagged Sales			0.000***	0.000**
			(0.000)	(0.000)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Observations	1,097	1,097	1,097	1,097

Panel B: Placebo Tests

Dependent variable	Performance	Patents	Citations
Model	(1)	(2)	(3)
Net winners in close elections	0.002	0.028	0.020
	(0.001)	(0.051)	(0.061)
Lagged Market-to-book	0.027***	10.487*	8.371
	(0.004)	(6.113)	(6.663)
Lagged R&D		0.393***	0.523***
		(0.143)	(0.179)
Lagged Sales		0.000***	0.000**
		(0.000)	(0.000)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Observations	582	582	582

Table 9
Monitoring and Incentives

This table explores the relation between contract-level monitoring and incentives and firm performance and innovation. *Monitoring* is the top tercile of firms based on the average percent of contracts with monitoring mechanisms in the two years following an election. *Pay-for-performance* is the top tercile of firms based on the average percent of contracts with performance-based awards in the two years following an election. *Longer distance* is the top tercile of firms based on the inverse of the minimum distance between the location of a contract's performance and Washington, DC. *Composite index* is the top tercile of firms based on the ranked average of these three measures, normalized to the unit interval. The sample for specifications in this table is subset to firms winning contracts and connected to winning candidates in close elections. In Panel A, performance is defined as the average return on assets in the following two years. In Panel B, patents is the sum of the number of patents received in the following four years. In Panel C, citations is the sum of citations of patents received in the following four years. Panel A includes *Market-to-book* as a control variable. Panel B and Panel C includes *Market-to-book*, *R&D*, and *Sales* as control variables. All control variables are lagged by one year. *Return on assets* and *Market-to-book* are winsorized at the 1% level in each tail. Industries are defined at the two-digit SIC level. All models include year and industry fixed effects and an intercept term. Standard errors are reported in parentheses and clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Performance

Dependent variable	Monitoring	Pay-for-performance	Longer distance	Composite index
Model	(1)	(2)	(3)	(4)
Top tercile	0.026**	0.025**	0.031**	0.028**
	(0.012)	(0.012)	(0.015)	(0.013)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
R-squared	0.330	0.330	0.340	0.334
Observations	295	295	295	295

Panel B: Patents

Dependent variable	Monitoring	Pay-for-performance	Longer distance	Composite index
Model	(1)	(2)	(3)	(4)
Top tercile	0.427	1.271***	1.165***	1.554***
	(0.283)	(0.309)	(0.352)	(0.313)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
R-squared	0.126	0.131	0.129	0.132
Observations	295	295	295	295

Panel C: Citations

Dependent variable	Monitoring	Pay-for-performance	Longer distance	Composite index
Model	(1)	(2)	(3)	(4)
Top tercile	0.447	1.338***	1.151**	1.570***
	(0.370)	(0.445)	(0.568)	(0.499)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
R-squared	0.135	0.140	0.138	0.141
Observations	295	295	295	295