The role of stock ownership by US members of Congress on the market for political favors

Ahmed Tahoun [*]
London School of Economics and Political Science
Houghton Street
London, WC2A 2AE, UK
a.m.tahoun@lse.ac.uk

Job Market Paper

Abstract

Using data on the stock ownership of US Congress members, the campaign contributions of U.S. firms, and the award of federal contracts, I examine whether politicians' stock ownership is a mechanism to enforce their *quid pro quo* relations with firms. Quid pro quo deals are non-contractible agreements between two parties to exchange benefits. I find that ownership of US Congress members in firms contributing to their election campaigns is higher than their ownership in non-contributing firms. This magnitude depends on the value of the relation. Politicians invest more (less) in firms favoring their party (the opposing party). Firms with stronger association between ownership and contribution receive more government contracts. Politicians concentrate their ownership in firms that are not competing on the same government contract. When politicians divest the stock, firms discontinue their contributions to these politicians. By not divesting, politicians preserve their relations with firms.

JEL-code: D72, G10, G11, G18, G38

---

[*] I undertook part of this research while I was a visiting scholar at the Wharton School. I am indebted to Laurence van Lent for his continuous support, guidance, and valuable discussions. I thank Stanley Baiman, Ray Ball, Phil Berger, Tim Besley, Jennifer Blouin, Hans Christensen, Renuka Fernando, Daniel Ferreira, Henry Friedman, Martin Giraudeau, David Kershaw, Christian Leuz, Yuval Millo, Sam Peltzman, Andrea Prat, Edmund Schuster, David Skeie (the AFA discussant), Abbie Smith, James Snyder, Norman Strong, Wim van der Stede, Ane Tamayo, Martin Walker, the doctoral students at the Wharton School, seminar participants at LSE, the 2011 American Finance Association annual meeting, University of Chicago, and especially John Core for feedback and comments. I gratefully acknowledge the financial contribution of Tilburg University and the European Commission Research Training Network INTACCT (MRTN-CT-2006-035850). I thank the Center for Responsive Politics, Eagle Eye Publishers, Inc., and Charles Stewart III (MIT) for making their data publicly available

1. Introduction

A large stream of research suggests that firms receive benefits from politicians and politicians, at the same time, benefit from these firms.[1] This evidence on the exchange of benefits between politicians and firms implies some sort of agreement between these two parties. This agreement, however, cannot be in the form of a written contract as writing direct fee-for-service contracts between a politician and a firm is considered bribery (Krozner and Stratmann 1998; 2000). In addition, either party to this agreement might renege on its promise and the other party cannot resort to the courts. If the uncertainty about how the other party is going to behave becomes too high, the politician-firm exchange market will break down. Thus, there should be some mechanisms in place to reduce this uncertainty (Baron 1989), thereby enabling both parties to exchange benefits as prior studies document. In this paper, I examine one possible mechanism that can enforce this relation. Specifically, I examine whether a politician's stock ownership in a firm serves as a mechanism to enforce his or her *quid pro quo* relation with this firm, thereby avoiding the breakdown of the politician-firm exchange market. To the best of my knowledge, this is the first study to investigate this question.

My question is motivated in part by anecdotal evidence which cites 'ownership by politicians' as a main element in cases where there are allusions toward politicians exchanging benefits with firms. Procon.org, for example, reports: "Less than two months after ascending to the United States Senate, Barack Obama bought more than $50,000 worth of stock in two speculative companies whose major investors included some of his biggest political donors. One of the companies was a biotech concern that was starting to develop a drug to treat avian flu. In March 2005, two weeks after buying about $5,000 of its shares, Mr. Obama took the lead in a legislative push for more federal spending to battle the disease. The most recent financial disclosure form for Mr. Obama . . . shows that he bought more than $50,000 in stock in a satellite

[1] The literature suggests that politically-connected firms can obtain economic favors, such as securing favorable legislation, special tax exemptions, having preferential access to finance, receiving government contracts, or help in dealing with regulatory agencies. The literature also suggests that firms' support can help in winning elections. For example, firms can vary the number of people they employ, coordinate the opening and closing of plants, and increase their lending activity in election years in order to help incumbent politicians get re-elected. See Roberts 1990; Snyder 1990; Langbein and Lotwis 1990; Durden, Shorgen, and Silberman 1991; Stratmann 1991, 1995, and 1998; Fisman 2001; Johnson and Mitton 2003; Ansolabehere, Snyder, and Ueda 2004; Sapienza 2004, Dinç 2005; Khwaja and Mian 2005; Bertrand, Kramarz, Schoar, and Thesmar 2006; Faccio 2006; Faccio, Masulis, and McConnell 2006; Jayachandran 2006; Leuz and Oberholzer-Gee 2006; Claessens, Feijen, Laeven 2008; Desai and Olofsgard 2008; Ramanna 2008; Goldman, Rocholl, and So 2008, 2009; Cole 2009; Cooper, Gulen, and Ovtchinnikov 2009; Correia 2009; Ramanna and Roychowdhury 2010; Benmelech and Moskowitz 2010.

communications business whose principal backers . . . had raised more than $150,000 for his political committees."[2]

The intuition behind my main argument, i.e., share ownership of politicians serves as a mechanism to preserve their relationships with firms, is as follows. The ownership of politicians can play two distinct (but not necessarily independent) roles; one that relies upon the amount of ownership and one that does not. First, as investors in firms, politicians tie their own interests to those of the firm. Thus, harming (benefiting) the firm means harming (benefiting) the politician and *vice versa*. By owning a firm's stock, politicians commit their personal wealth to the firm and reduce a firm's uncertainty with regard to their actions toward the firm. This will, in turn, enhance the firm's incentive to support the politician-owner during both current and future elections in order to prolong the incumbency period for as long as possible. For this argument to hold, firms should be able to know the amount of ownership likely to be material to politicians.[3] This knowledge, in turn, would enable them to judge whether the politician's interest is aligned with the firm's interest.

The second role of ownership is to allow politicians to convey their intentions to establish a relation with a firm. This works in much the same way as a politician sending a symbolic gift (e.g., a Christmas card) to the CEO of the firm to start a cooperative long term relation.[4] In other words, ownership here merely serves as a mechanism facilitating repeated interaction that enables both politicians and firms to build reputation overtime; accordingly, and in contrast to before, the ownership amount does not now matter. I do not attempt to discriminate between these two roles in this paper—and indeed both roles are likely at work concurrently in practice; as a first step, I document that share ownership can enforce exchange relations between firms and politicians.

In the United States, the mandated disclosure requirements of the Ethics in Government Act of 1978 as well as the Federal Election Committee Act enable me to obtain the data required for investigating my question. Using data on share ownership that US members of Congress held in 642 firms during 2004–2007, I conduct five closely related tests to examine the main

[2] See http://insidertrading.procon.org/viewresource.asp?resourceID=1580#obamaa. See Appendix II for two more examples from the Citizens for Responsibility and Ethics in Washington (CREW) report (2009).

[3] In order to avoid firm shirking, it is in the best interest of a politician to hold a stake that is also material enough to the firm. This will ensure that the firm will not renege. In the limit, the politician might acquire the entire firm.

[4] Camerer (1988) suggests that a gift serves as a signal of the intentions of a person to establish a long term relationship. Carmichael and MacLeod (1997) also suggest that giving a gift at the beginning of a relationship enhances trust and cooperation, thereby leading to a cooperative long-term relationship.

prediction that the ownership of politicians is a mechanism to establish mutual relations with firms. While the result of each test individually might not be in itself conclusive evidence, the results of these five tests together support the use of ownership as a mechanism to establish a relation with firms. My results are as follows. First, I find that the Political Action Committee (PAC) contribution of firms (which is a direct measure of benefits flowing from firms to politicians) is a significant determinant of ownership allocations by members of Congress. The ownership of Congress members in firms that contribute to their election campaigns is roughly 32.8% higher than their ownership in noncontributing firms even after accounting for factors that are associated with both ownership and contribution (such as familiarity, proximity and investor recognition). In addition, I find that Democratic members invest more (less) in firms that favor, i.e., contribute more to, the Democratic (Republican) Party over the Republican (Democratic) Party. That is, politicians are partisan investors.

Second, I find that the documented positive association between ownership and contributions depends on the value of establishing a mutual relation to both firms and politicians. Specifically, using the committee assignments of politicians as a proxy for whether their relations with firms are enforced (Krozner and Stratmann 1998),[5] I find that the documented positive association between ownership and contributions is stronger when firms are not linked to politicians via their committee assignments than when firms are linked to politicians. In addition, I find that the positive association is increasing in politicians' power (as defined by having membership in a powerful Congressional committee, seats in several powerful committees, seniority, or by being incumbent). Furthermore, I find that politicians who are under investigation for ethics issues (and accordingly their ability to help firms is constrained) invest more in contributing firms than in non-contributing firms in the time periods before, but not in the time periods after the investigation took place.

Third, I show that firms obtain private benefits out of their mutual relations with politicians. When the strength of the association between ownership and contributions estimated at the firm level increases, the provision of government contracts (in terms of numbers and

[5] Krozner and Stratmann (1998) argue that the formation of specialized standing committees allow for a better enforcement of the relationship between politicians and firms not by enforcement by court but by the threat of stopping all future exchanges. This is because these committees have three main features: a) they are specialized, b) politicians have the choice to continue in the same committees as long as they want, and c) there is a limit on the number of committees that politicians can join, thereby limiting politicians' relation to a subset of firms. Thus, the formation of specialized standing committees fosters reputation building and enables long-term relations between firms belonging to industries influenced by the relevant committee and members of the relevant committee.

amounts) from politicians to firms also increases. Fourth, politicians choose to invest in firms that are not in direct competition with each other on these government contracts. Specifically, I find that, within any single industry, politicians choose to concentrate their ownership in most cases in one firm.

Finally, politicians who divest their ownership in firms are less likely to receive contributions from these firms in the future conditional upon having received contributions in the past. However, this termination of the relation does not happen when politicians are serving in a committee assignment affecting the firm. These results suggest that divesting the stocks is less likely to terminate the relation if there is a mechanism in place that is already protecting the relation.

My study contributes to two main streams of finance literature. The first stream is investigating the determinants of individual portfolio choices. This stream suggests that individuals have preferences to invest more in some stocks; for example, because they are more familiar with these stocks (e.g., Huberman 2001), prefer to invest in firms that are located in the same geographical area (Coval and Moskowitz 1999), or have emotional ties or feelings of loyalty to a firm (Cohen 2009). In addition to familiarity, geographical proximity, and loyalty, I show that individual preferences for stocks could also be determined by their desire to engage in *quid pro quo* relations with firms.

It is important to note that the message conveyed by my results is not only about understanding the portfolio choices of politicians *per se*, but also about those of other individuals engaging in non-contractible *quid pro quo* deals. In addition to *quid pro quo* deals between politicians and firms, practice offers many anecdotes of *quid pro quo* deals between individuals and firms, in which these two parties agree to exchange benefits with each other. For example, analysts have incentives to exchange benefits with firms, in which the firm provides selective disclosure to the analyst in exchange for providing favorable recommendations.[6] Journalists may engage in a mutual relation with firms, in which the firm provides valuable information to the

[6] Or the analyst delays the downward revision of forecasts or the issuance of negative recommendations. See Boni and Womack (2002) and Ozerturk (2007). There is also a quote, dated August 30 2010, from the investor alert section by the U.S. Securities and Exchange Commission: "…investors should understand the potential conflicts of interest analysts might face. For example, some analysts work for firms that underwrite or own the securities of the companies the analysts cover. Analysts themselves sometimes own stocks in the companies they cover—either directly or indirectly, such as through employee stock-purchase pools in which they and their colleagues participate." http://www.sec.gov/investor/pubs/analysts.htm.

journalist in exchange for a positive spin on the news being provided.[7] Public officials have incentives to establish mutually beneficial relations with media companies, in which the media company promotes good news (and suppresses bad news) about the official in exchange for favorable regulations covering the media industry or deterring the entrants of potential media outlets to the market. Managers of a firm may establish a 'tacit collusion' agreement with another firm, in which both parties benefit each other through their pricing and advertising strategies on the expense of other competitors. It is interesting to examine whether my results hold in these other *quid pro quo* relations between individuals and firms. I leave this issue for future research.

The second stream of research is on politicians and firms (e.g., Cohen and Malloy 2011). Prior studies suggest that firms receive benefits from politicians and politicians, at the same time, benefit from these firms.[8] None of these prior studies, however, investigate the underlying mechanisms enforcing this *quid pro quo* relation between politicians and firms. My study contributes to this stream by showing that the ownership of politicians serves as a mechanism enabling firms and politicians to provide (and continue providing) each other with support.[9]

2. Hypothesis Development

Krozner and Stratmann (1998) suggest that the formation of specialized standing committees is a strong mechanism that can avoid the breakdown of the politician-firm relation for three reasons. First, standing committees allow repeated interaction and a long term relationship between firms and committee members. This will, accordingly, provide politicians in those committees more opportunities to reduce uncertainty about where they stand by producing more observations of their actions for the firms. Similarly, the firms can more easily develop their reputations for reliability by having frequent interactions with a subset of politicians. Second, politicians have the ability to stay on the same committee for as long as they are re-elected. Third, the committees have specialized jurisdictions and politicians can join a limited number of committees. These constraints preclude politicians from opportunistically joining committees handling hotly contested issues and, accordingly, compete with other

[7] See Dyck and Zingales (2003).
[8] See footnote 1 for a list of these studies.
[9] It is important to note that Ziobrowski, Cheng, Boyd, and Ziobrowski (2004) examine the investments of politicians; they investigate whether the investments of U.S. senators outperform the market. They test the hypothesis that, relative to other investors, senators have an informational advantage. My objective, however, is different from theirs, as I am not interested in examining whether politicians are informed traders.

politicians for firms' contributions. These three features of the committee system allow for repeated interaction, credible reputation building, and a long term relationship which benefit both firms and politicians relative to a situation without standing committees. Compliance in implicit agreements between firms and politicians will, accordingly, be achieved through the threat of stopping all future exchanges between the two parties but not through the courts (Krozner and Stratmann 1998).

Politicians, however, are not always in committee assignments that have jurisdiction over certain firms. In other words, not all firms and politicians have the option to repeatedly interact, and, accordingly, to build reputation over time through the committee assignment. In addition, even though politicians and firms might have the option to repeatedly interact, the sole reliance on reputational development and repeated interactions between these two parties to enforce their relations might not be enough (See, e.g., McCarty and Rothenberg 1996; Samuels 2001).[10] This is due to the following reasons. First, none of the reputation or the repeated interaction mechanisms can fully constrain the *ex post* actions of politicians once they get (re)elected or prevent them from manipulating other firms in their favor later on. A firm's anticipation of this *ex post* possibility makes the firm less willing to interact with the politician *ex ante*. Second, firms can contribute to the politician and his opponent at the same time, and firms can make contributions subsequent to the election and still have access. A politician's anticipation of this *ex post* possibility makes the politician less willing to interact with the firm *ex ante*. Taken together, a repeated interaction (and accordingly the opportunity to build reputation) between firms and politicians is less likely to occur even though they might both have the option to do so. Politicians and firms needs a mechanism that reduces their *ex ante* uncertainty about how each party is going to behave *ex post.*[11]

I argue that the stock ownership of politicians can mitigate the above-mentioned problems, thereby providing politicians and firms with an alternative mechanism that can avoid the breakdown of their relationship. By owning firms' stocks, politicians tie their own interests to those of the firm and reduce firms' uncertainty about their future actions. Politicians will be less likely to hurt the firm in the future as harming the firm would mean damaging their own interests. In turn, the firm's incentive to support these politicians during elections will be

[10] See Bulow and Rogoff (1989), Milgrom, North, and Weingast (1990), Veitch (1986), and Weingast and Marshall (1988) for a discussion of the circumstances where the repeated games mechanism alone fails to prevent reneging.
[11] See Wiliamson (1985).

strengthened and the firm will try to prolong their incumbency period for as long as possible. Furthermore, it is in the best interest of the firm to ensure that it is the politician who invests in the firm who actually wins the election and not his/her opponent. This, accordingly, ensures that firm is not going to support the opponent of the politician who invests in the firm by making contributions to the latter before (and even after) the elections. Indeed providing support to the other candidate imposes risk on the firm because the interests of firm and owner-politician are now tied together.

In addition, share ownership provides an opportunity for repeated interactions for those politicians and firms that are not linked through the committee mechanism. First, holding a firm's stock is the politician's choice and ownership can be held for a long time. By owning a firm's stock, politicians can convey their intentions to establish a relation with a firm. Politicians have the choice not to divest their shares, and accordingly, can be in a relationship with firms for as long as they want. By not divesting, a politician reduces the firm's uncertainty with regard to his/her action toward the firm and conveys his/her intentions to proceed in the relation.

Thus, I predict that share ownership by politicians is a mechanism for establishing a relationship with firms. I test this prediction in the following sub-sections using five hypotheses. An outline of each of these hypotheses is as follows.

2.1. Is the stock ownership of politicians positively associated with firm contributions?

The main objective of politicians in establishing a relation with firms is to obtain these firms' contributions and support. Thus, if politicians indeed use their ownership as a mechanism to establish a relation with firms for the purpose of attracting (and/or continuing to receive) their contributions, one would expect a positive association between the ownership of these politicians and firms' contributions. Therefore, I test my prediction that ownership is a mechanism for establishing a relationship with firms with the following hypothesis,

H1: There is a positive association between the ownership of politicians in firms and contributions they receive from these firms.

It should be noted that a positive association between politicians' ownership and firms' campaign donations can be explained by other factors than the cementing of mutually supportive relations. I outline two explanations in some detail below because not only do they suggest important controls for the empirical design, but they also motivate a different test of the same hypothesis.

The first explanation concerns *familiarity* and *geographical proximity*. Several prior studies on investment allocation decisions demonstrate that both variables serve as significant determinants of investment behavior (see, e.g., Coval and Moskowitz 1999). Investors prefer to include in their portfolios firms they are familiar with, either because the firm is geographically proximate or the investor has personally consumed the firm's products. If firms tend to support politicians who represent the district in which they are headquartered and if politicians tend to invest in firms close to home, then a positive correlation between ownership and contributions would follow. The second explanation is Merton's (1987) *investor recognition hypothesis*. Merton argues that investors focus on stocks they recognize to construct their portfolios. Politicians, like other investors, are likely to invest in large firms because investors tend to know more about large firms. These large firms, in turn, are more likely to be politically active and to establish a political action committee that makes campaign contributions. Taken together, failure to control for firm size can drive a positive association between investment and contribution.

Politicians' committee assignments may also make them more aware of a particular firm. Much of the Congress's legislative process is prepared via sub-committees. Politicians are more likely to be aware of firms belonging to industries under the aegis of committees on which they serve, particularly the largest of these firms. Furthermore, the familiarity and investor recognition hypotheses would predict that politicians will not only recognize but invest in these firms. At the same time, firms are likely to curry favor with politicians who stand on committees able to affect their competitive position by contributing to these politicians' election campaigns.[12] Again, the positive association between ownership and contribution might stem from the effect committee membership has on both ownership and contribution. In short, it is imperative to account for familiarity, geographical proximity, and investor recognition before concluding that the positive association between ownership and contribution is an evidence of mutual relation between firms and politicians.

An alternative way to rule out the familiarity and investor recognition hypotheses is by examining party-level contributions. Politicians scan the market for firms and other sponsors to support their election campaigns. Through this scanning process, politicians are likely to become aware of most of the firms participating in the political process. Some of these firms will support

[12] There is evidence that influential legislators, such as party leaders, committee chairs, and members of powerful committees, raise substantially more funds than other legislators (Grier and Munger 1991, Romer and Snyder 1994, and Ansolabehere and Snyder 1999).

the party to which the politician belongs while others will support the opposing party; either way, politicians are likely to be aware of all politically active firms. Thus, if investor recognition alone caused politicians to invest in firms, we should find that politicians invest in any firm participating in the political process, regardless of the firm's political leanings. However, should we find instead that politicians invest more in firms that favor their party and less in firms that oppose their party, we can conclude that investor recognition is not the full story. Indeed, we would not then observe partisan behavior driving investment decisions. Conversely, should partisan behavior inform politicians' investment decisions, I can conclude that the association between ownership and contribution captures a mutually supportive relation. Therefore, I alternatively test whether there is a partisan component in politicians' investment decisions.

2.2. Is the association between ownership and contribution a function of the size of potential benefit to the firm?

For the association between ownership and contribution to capture the relationship between politicians and firms, the strength of that association should reflect the degree of its usefulness. Therefore, I hypothesize that,

H2: The association between ownership and contribution is a function of how valuable it is to establish a mutual relation between politicians and firms.

Specifically, I examine **H2** in three situations where *a priori* it is expected that the value of the relation varies. The first situation focuses on the absence/availability of other mechanisms linking politicians and firms, and the other two address situations involving politicians who have varying degrees of ability to provide benefits to firms.

First, since the relationship is more valuable with politicians who do not have a mechanism enabling them to establish a relation with firms, and is less valuable for politicians who already possess such a mechanism, I predict that the association between ownership and contribution is higher for the former than for the latter. Since Krozner and Stratmann (1998) show that the committee assignment is a strong mechanism, I predict that the association between ownership and contribution is higher for politicians who are not seated in committee assignments affecting the firm than for those who are seated in committee assignments affecting the firm.

Second, the mutual relations between politicians and firms are established with the understanding that politicians will grant benefits to the firms and that, in turn, the firms will

increase their contributions to and support for the politicians. Then, it stands to reason that these mutual relations will be more valuable when they involve powerful politicians. This is because a powerful politician can award more benefits to firms than a non-powerful one. For example, from his or her seat on an appropriate Congressional committee, a politician can influence government policy in a desired direction. The literature demonstrates that not all committee assignments are capable of generating maximum benefits to firms (Edwards and Stewart 2006). The literature also suggests that a politician's seniority affects the distribution of government benefits (Roberts 1990). Because powerful politicians can provide firms with more benefits than non-powerful ones, firms have greater incentives to contribute to powerful politicians than non-powerful ones (Grier and Munger 1991; Romer and Snyder 1994; and Ansolabehere and Snyder 1999). These incentives will be even greater if the powerful politicians own shares in the firms because, being owners, the politicians will align their interests with those of the firms. Thus, the value of the mutual relation increases with the power of the politician. Therefore, I predict that the positive association between ownership of politicians and the contributions is increasing in politicians' power.

Third, official authorities (such as the Office of Congressional Ethics), nonpartisan public interest organizations (such as Judicial Watch), and public watchdogs (such as the Citizens for Responsibility and Ethics in Washington) that monitor politicians' behavior question some politicians about providing benefits to firms with which they have personal ties. The investigations and monitoring of these institutions put these politicians under heavy scrutiny and exposes them to the risk of being forced to leave office. This will, accordingly, constrain the ability of these politicians to help firms, and increase firms' uncertainty with regard to what these politicians can still provide them. Since the relationships with the politicians when they are 'under investigation' are no longer valuable, there will be a lower demand for creating a relationship with these politicians during these periods compared to the time periods where they were not yet under investigation. Such differences in the value of creating the relation in the two periods should be reflected in how politicians invest in the contributing firms in these two periods relative to how they invest in the non-contributors. Therefore, I predict that politicians invest more in the contributing firms than in the non-contributors during the time periods where they are 'not' yet under investigation, but not during the time periods where they are under investigation.

2.3. Do firms obtain private benefits from a mutual relation with politicians?

To the extent the association between politicians' share ownership and firms' contributions captures the relation between firms and politicians, I predict that as the strength of this association increases so too will the provision of benefits from politicians to firms. In other words, the association between politicians' share ownership and firms' contributions should explain a given firm's likelihood of receiving government benefits. To test this prediction, I focus on the one clear benefit that can accrue to firms at the behest of a politician, that is, the awarding of government contracts. To capture the mutually supportive relation between a firm and group of politicians, I compute for each firm a measure of the association between politicians' share ownership in this firm and the contributions the firm makes to their election campaigns (i.e., Ownership-Contribution Association). I then use this firm-specific measure to test my prediction that mutually supportive financial ties between politicians and firms increase the likelihood that the government will provide benefits to these firms, as the following hypothesis reflects:

H3: When the strength of the firm-level association between ownership and contributions increases, the provision of government contracts from politicians to firms also increases.

2.4. *Do politicians concentrate their ownership in noncompeting firms?*

The provision of a government contract benefits one firm on the expense of the other. Politicians, accordingly, should avoid establishing relation with firms competing on the same contract; otherwise these relations will not function properly. Firms belonging to the same industry are likely to compete on the same government contracts. Thus, one would expect politicians to invest in few firms within the same industry. If politicians want instead to establish relation with more than one firm, they should distribute their ownership across firms belonging to different industries rather than across firms within the same industry. Therefore, I hypothesize that,

H4: The ownership of politicians in a given industry is highly concentrated in a few firms.

2.5. Does divesting the stock terminate the mutual relation between politician and firm?

Krozner and Stratmann (1998) argue that since the committee assignment is the mechanism that avoids the breakdown of the contributor-politician relationship, we should indeed observe the breakdown of this relation if the politicians switch their committees. Consistent with their theory, they find that contributions to those politicians who switch their committee assignments fall. Romer and Snyder (1994) also find that politicians who switch

committees initially tend to lose more in total contributions than they gain. If the ownership of politicians, as I argue in the paper, is indeed a mechanism for avoiding the breakdown of the relation, we should observe politicians who choose to terminate the relations by divesting their stocks in firms to receive no contributions from these firms in the future conditional upon receiving contributions in the past. However, this breakdown in the relation should not occur if there is already a mechanism in place that is protecting the relationship from such breakdown (such as the committee assignments). Therefore, I hypothesize that,

H5a: Divesting the stocks by politicians who do not serve in a committee assignment affecting the firm reduces the likelihood of receiving future contribution from the firm conditional upon receiving contributions in the past.

H5b: Divesting the stocks by politicians who serve in a committee assignment affecting the firm does not affect the likelihood of receiving future contribution.

3. Empirical Setting

3.1. Data

3.1.1. *Stock Ownership data*

Members of Congress, candidates for federal office, senior congressional staff, nominees for executive branch positions, Cabinet members, the President and Vice President, and Supreme Court justices are required by the Ethics in Government Act of 1978 to file annual reports disclosing their income, assets, liabilities, and other relevant details about their personal finances. Personal financial disclosure forms are filed annually by May 15 and cover the preceding calendar year. The Center for Responsive Politics (CRP) collected the 2004–2007 reports for Congress members from the Senate Office of Public Records and the Office of the Clerk of the House. The Center then scanned the reports as digital images, classified the politicians' investments into categories including stocks, bonds, and mutual funds, and built a database accessible via a web query.

Using CRP's website, I collect the shares in S&P 500 firms held by members of Congress between 2004 and 2007. I collect the stock ownership data for every firm that joined the S&P 500 Index any time between January 2004 and April 2009; regardless of when it joined the index, I obtained all the available stock ownership data for that firm between 2004 and 2007. Likewise, if a firm dropped out of the index at any time during 2004–2008, I nevertheless retain

the firm in my sample for the target period. As such, my sample includes stocks in 642 unique firms owned by politicians between 2004 and 2007.

Politicians are required to report only those stocks whose value exceeds $1,000 at the end of the calendar year or that produce more than $200 in income. They are not required to report the exact value of the holding, but instead must simply check a box corresponding to the value range into which the asset falls. The CRP then undertakes additional research to determine the exact values of these stocks. When the Center makes these determinations, it reports them instead of the ranges and I use these values in my study. When only the range is available, I use its midpoint as the holding's value. I have data on the stock holdings of 709 politicians.

3.1.2 Political Action Committee (PAC) Contributions

Using the CRP's website, I searched for all Political Action Committees (PACs) associated with my sample firms. I then collected data on each contribution these PACs made to candidates (both the winners and losers) running for the Senate and House elections. Some firms establish several PACs, each in a different location, and each of these PACs can contribute to the same candidate. In such cases, I total for each candidate every contribution he or she received from PACs affiliated with the same firm. To parallel the investment data sample period, I collect every contribution made from the 2003–2004 cycle up to and including the 2007–2008 cycle. Despite the fact that my sample contains the largest firms on the market, approximately 34.9% of my sample firms did not make contributions to politicians during my sample period.

3.1.3. Government Contracts

I collected my government contract data from Eagle Eye Publishers, Inc., one of the leading commercial providers of Federal procurement and grant business intelligence.[13] Eagle Eye collects its contract data from Federal Procurement Data System–Next Generation (FPDS-NG), the contract data collection and dissemination system administered by the U.S. General Services Administration (GSA). FPDS-NG provides data on procurement contracts awarded by the U.S. Government. If these contracts are awarded to company subsidiaries, Eagle Eye searches for the names of their parent companies and assigns each subsidiary to its appropriate parent.

I collected both the number and aggregate value of government contracts that were awarded to my sample firms between 2004 and 2007. Approximately 22% of my sample firms

[13] I collect the data from this website: http://www.usaspending.org

did not receive contracts during my sample period. Table 1, Panel B presents the descriptive statistics for the number and size of the contracts.[14]

3.2. Empirical Models and Findings

I estimate three empirical models. Several specifications of the first model are for examining hypotheses one and two, while the second and third models are for testing hypotheses three and five, *respectively*. For testing hypothesis four, I use the Herfindahl-Hirschman Index.

3.2.1. Empirical model and findings for H1 and H2

Not every politician invests in my sample firms. Even when they do invest, politicians do not invest every year or in all firms.[15] Of a total number of 1,309,727 politician-firm year observations, only 17,887 correspond to positive investments. Consistent with prior studies on household finance, I use a Tobit model to explain a given politician's decision to invest or not to invest in a firm, as well as the amount invested (Wooldridge 2002).[16] The ownership, y_{ijt}, of politician *i* in firm *j* at time *t* is explained by the following model,

$$y^*_{ijt} = x'_{ijt}\kappa + z'_{jt}\lambda + v'_{it}\delta + \alpha_j + \gamma_i + \varepsilon_{ijt} \qquad (1),$$

$$y_{ijt} = y^*_{ijt}, \text{ if } y^*_{ijt} \geq 0$$

$$\text{or} \quad 0, \text{ if } y^*_{ijt} < 0$$

wherein y^*_{ijt} is the desired amount of ownership in the firm, while y_{ijt} is the actual amount of ownership. If the desired amount of ownership is positive, then the actual ownership equals the desired ownership. If the desired amount of ownership is negative, then the actual ownership is zero. I measure the actual ownership as the natural logarithm of 1 plus the dollar amount of shares owned if the politician invests, and zero if he or she does not invest ($Ownership_{ijt}$).

The desired amount of ownership is modelled as a function of the following explanatory variables. Complete definitions of the variables and their data sources are provided in Appendix

[14] My sample includes 14 firm-year observations that are de-obligations, which "means the government has either reduced the authorized value of the contract, or has cancelled the contract outright." (See the definition of de-obligations at http://www.usaspending.org). These de-obligations have negative dollar amounts. In my empirical analyses, I replace the negative values of these cases with zero.

[15] If we observe no investment by a politician in a firm at time *t*, it is nevertheless incorrect to automatically assign a zero to this observation. It might, for example be the case that: 1) the firm did not exist at time *t*, 2) the firm was not a publicly traded firm in year *t*, or 3) the firm was once publicly traded but went private in year *t*. In all of these cases, the investment variable at time *t* should have missing values rather than zeros. To ensure that I do not mistakenly assign zeros to these firm-year observations, I record zeros only when at least one trading day is reported that year in CRSP.

[16] For example, van Soest and Kapteyn (2006).

1 and their descriptive statistics are presented in Table 1.[17] First, the vector x_{ijt} includes politician-firm–specific characteristics, specifically, three measures. The first, PAC_{jit} , is an indicator variable that equals 1 if politician *i* receives a campaign contribution from firm *j* in year *t*, and zero otherwise. The second, $Com\_Firm\_Match_{ijt}$, is an indicator variable that takes a value of 1 when the industry to which firm *j* belongs is under the influence of politician *i*'s Congressional committee at time *t*, and zero otherwise. I obtain my data on Congressional committee assignments from the website of Charles Stewart III (MIT).[18] The third is $State\_Firm\_Match_{ij}$. I measure this variable for Representatives as an indicator variable that takes a value of 1 if both the headquarter of firm *j* and the Congressional district of politicians *i* belong to the same state, and zero otherwise, I measure $State\_Firm\_Match_{ij}$ for Senators as an indicator variable that takes a value of 1 if the headquarter of firm *j* are in the same state as politician *i*, and zero otherwise. $State\_Firm\_Match_{ij}$ captures geographical proximity between politician *i* and firm *j*. In addition, this variable can capture a politician's degree of familiarity with and recognition of a certain firm. It can also capture politicians' political motivations for establishing ownership in a particular firm as politicians may invest in firms located in their congressional districts in order to attract these firms' contributions and support. I obtain my data on the location of firm headquarters from Compustat and on the location of both Congressional districts of Representatives and States of Senators from the Center for Responsive Politics.

Second, the vector z_{jt} includes the following firm-specific characteristics: $Size_{jt-1}$, BM_{jt-1}, $Momentum_{jt}$, $Return\ Volatility_{jt}$, $Dividends_{jt}$, $Leverage_{jt}$, and ROA_{jt}. I choose these firm-specific characteristics to maintain consistency with prior studies' determinants of investors' investment decisions (e.g., Leuz, Lins, and Warnock 2008). I delete all firm-year observations that have a negative book-to-market ratio (BM_{jt-1}). To mitigate the influence of outliers, I winsorize the firm-specific characteristics at the 1% and 99% levels. Third, the vector v_{it} includes the following politician-specific characteristics: Net_Wealth_{it}, Age_{it}, and $Gender_i$.

[17] Some of the politician-firm-specific and politician-specific characteristics are time invariant.

[18] Charles Stewart III and Jonathan Woon. Congressional Committee Assignments, 103rd to 110th Congresses, 1993--2007: [House and Senate], [updated to 01/03/2009]. These databases are available at http://web.mit.edu/17.251/www/data_page.html

The panel structure of my data allows me to control for the unobserved time-invariant politician-specific characteristics as well as unobserved time-invariant firm-specific characteristics that might be correlated with the variables of interest. Specifically, I include α_j and γ_i to capture the unobserved time-invariant characteristics of firms and politicians, respectively. Following Chamberlain (1984), I model the firm effects α_j as a sum of the linear combination of the means of the time-varying regressors z_{jt} and an error term that is independent of the regressors:

$$\alpha_j = \sum_k \bar{z}_{jk} \lambda_k + \eta_j \qquad (2)$$

Similarly, I model the politician effects γ_i as a sum of the linear combination of the means of the time-varying regressors v_{it} and an error term that is independent of the regressors:

$$\gamma_i = \sum_l \bar{v}_{il} \delta_l + \xi_i \qquad (3)$$

3.2.1.1. Hypothesis 1: *Ownership of politicians and firms' contributions*

My first hypothesis is that there is a positive association between the ownership of politicians in firms and contributions they receive from these firms. To test this hypothesis, I conduct two tests below, the first focuses on the contribution that a firm pays directly to the politician and the second focuses on the contribution a firm pays to the political party of the politician while accounting for what a firm pays directly to the politician.

3.2.1.1.1. Ownership of politicians and contributions of firms to the politician

Table 2, Column 1 provides the results of my first hypothesis. PAC_{jit} is my variable of interest; **H1** predicts a positive coefficient on PAC_{jit}. As Column 1 in Table 2 shows, the coefficient on PAC_{jit} is positive and significant controlling for politician-firm-specific characteristics, politician-specific characteristics, and firm-specific characteristics. The coefficient on PAC_{jit} is the partial effect on the expected value of y^*_{ijt} (i.e., the desired amount of ownership in the firm) conditional on the explanatory variables. In order to understand the economic significance of these results, I compute the average marginal effect of PAC_{jit} on the expected value of ownership conditional on being uncensored (i.e., positive ownership) and on

the explanatory variables. That is, the average marginal effect of PAC_{jit} on $\mathrm{E}(y_{ijt} \mid y_{ijt} > 0,\ \mathrm{exp}lanatory\ \mathrm{var}iables)$, where y_{ijt} is actual amount of ownership. I find that this average marginal effect equals 0.284. Since y_{ijt} is the log of ownership, this effect can be interpreted as the ownership of politicians in contributing firms is about 32.8% more than their ownership in noncontributing firms. These results are consistent with **H1**. That said, I cannot confidently conclude that the association supports **H1** until I take into consideration the results of the second test discussed in the following section.

It is also important to note, as Column 1 in Table 2 shows, that the coefficients on $Com\_Firm\_Match_{ijt}$ is negative and significant, which suggests that politicians own smaller amounts in firms belonging to industries controlled by their committee assignment than in those not affected by their committee assignments. Since I argue that stock ownership of politicians is a mechanism to avoid the breakdown of the relationship between firms and politicians, the demand on this mechanism should be, accordingly, lower when there is another stronger mechanism already in place, such as the committee assignments as suggested by Krozner and Stratmann (1998). If there is a component of politicians' investment that is primarily for establishing a relationship with firms rather than for regular portfolio considerations, this should be manifested in differences in the amount of investment between committee and non-committee members; and this is indeed what the results show. Thus, the negative coefficient on $Com\_Firm\_Match_{ijt}$ is consistent with ownership of politicians acting as the alternative mechanism to mitigate the lack of formal mechanisms, thereby avoiding the breakdown of politicians-firms exchange market.[19] Bear in mind that that the familiarity and the investor recognition effects due to committee membership (which would predict that politicians invest more in firms belonging to industries under the influence of their committee assignments than in other firms) bias against finding the documented negative coefficient on $Com\_Firm\_Match_{ijt}$.

3.2.1.1.2. Ownership of politicians and firms' contributions to political parties

I further test **H1** by examining whether the contributions firm *j* pays to the party of politician *i* also affect said politician's investment decision. I focus here on the two main political parties in the United States, namely the Republican Party and Democratic Party. I include the

[19] This result could also suggest that politicians are not investing in these firms in order to avoid being in conflict of interest situations.

variable $PACdem_{jt} - PACrep_{jt}$, which is the difference between the sum of all contributions paid to Democratic candidates by firm *j* in year *t* and the sum of all contributions paid to Republican candidates by firm *j* in year *t*. The higher (lower) the value of the variable $PACdem_{jt} - PACrep_{jt}$, the greater is a company's connection to the Democratic (Republican) Party relative to the Republican (Democratic) Party. I then interact the variable $PACdem_{jt} - PACrep_{jt}$ with the indicator variable *republican*, which takes a value of 1 if the politician is Republican, and zero if the politician is Democratic.

As Column 2 in Table 2 shows, the coefficient on the variable $PACdem_{jt} - PACrep_{jt}$ is positive and significant, which suggests that the desired ownership (i.e., y_{ijt}^{*}) of Democratic politicians is higher in firms that favor Democratic candidates relative to Republicans. In addition, it shows that the coefficient on the interaction of $PACdem_{jt} - PACrep_{jt}$ with *Republican* is negative and significant, suggesting that the partial effect of $PACdem_{jt} - PACrep_{jt}$ on desired ownership is attenuated when the politician is a Republican. In order to understand the economic significance of these results, I compute the average marginal effect of $PACdem_{jt} - PACrep_{jt}$ on $\mathrm{E}(y_{ijt} | y_{ijt} > 0,\ \mathrm{explanatory\ variables})$ when the politician is a Democrat. I find that a $100,000 paid by the firm to Democrats over what it pays to Republicans increases the ownership of Democrats by about 7% (significant at the 1%). Bear in mind that I am already accounting for the contribution that a firm pays directly to the politician. These results suggest that Democratic politicians own more (less) shares in a firm that favors the Democratic (Republican) Party over the Republican (Democratic) Party. These results suggest that some degree of partisanship drives the investment decisions of politicians.[20]

In addition, the results in Column 2-Table 2 show a significant positive coefficient on the variable *Republican*. Since the latter is interacted with $PACdem_{jt} - PACrep_{jt}$, the positive

[20] When the variable $PACdem_{jt} - PACrep_{jt}$ equals zero, this means that a firm either supports both parties equally or it does not support either of them. In order to account for the double meaning of the zero amount, and its potential impact on the interpretation of the results. In an unreported analysis, I randomly assign the group of firms, where the zero means equally connected to both parties, into being connected to republican by $1 and into being connected to Democrats by $1. By doing so the remaining zero values of the variable $PACdem_{jt} - PACrep_{jt}$ means that the firm is connected to neither parties. The unreported results of this test are consistent with those reported in Column 2-Table2.

coefficient on *Republican* suggests that the desired ownership of Republicans is higher than Democrats in firms that are either connected to both parties equally or connected to neither (i.e., firms whose $PACdem_{jt} - PACrep_{jt}$ equals zero). Further, the results show that this incremental difference in the amounts desired by Republicans relative to those by Democrats decreases (increases) when the firm is connected more to Democrats (Republicans).

Collectively, the results of the two tests presented in Columns 1 & 2 in Table 2 suggest that the association between ownership and contributions captures motivations other than familiarity, geographic proximity, and investor recognition. I can therefore conclude that this association suggests the use of ownership as a mechanism to establish relations with firms.

3.2.1.2. Hypothesis 2: *Ownership-contribution association and potential benefits to firms*

In this section, I examine whether the association between ownership and contribution is stronger in situations where it is expected, *a priori*, that establishing a relation between firms and politicians is valuable for either or both firms and politicians. I examine three situations below.

3.2.1.2.1. Committee Assignments of Politicians

This test focuses on the availability of other mechanisms linking politicians and firms. I predict that the use of ownership to establish a relation with contributing firms is more valuable when politicians do not have an alternative mechanism that enables them to do so. Specifically, I test the prediction that the association between ownership and contribution is higher for politicians who are not seated in committee assignments affecting the firm than for those who are seated in committee assignments affecting the firm. Consistent with this prediction, Table 3, column 1 shows that the coefficient on PAC_{jit} is positive and significant, while the coefficient on the interaction term $PAC_{jit} * Com\_Firm\_Match_{ijt}$ is negative and significant. In addition, the sum of the coefficient on the variable PAC_{jit} and on the interaction term $PAC_{jit} * Com\_Firm\_Match_{ijt}$ is not statistically significant at conventional levels. The latter result suggests that the positive association between ownership and contribution only exists in the absence of other mechanisms enforcing politician-firm relation.

3.2.1.2.2. Powerful Politicians

Since establishing a relation is more valuable when they involve powerful politicians, I predict that the association between ownership and contribution is stronger for powerful politicians. I use four measures of politicians' power. The first, $Powerful\_Committee_{it}$, is an

indicator variable that takes a value of 1 if politician *i* is a member of an influential and powerful committee at time *t*, and zero otherwise. To compute my first measure of power, I follow Cohen, Coval, and Malloy (2009) and use the ten most powerful committees, as determined by Edwards and Stewart (2006), on both the U.S. Senate and the House: the Finance, Veterans Affairs, Appropriations, Rules, Armed Services, Foreign Relations, Intelligence, Judiciary, Budget, and Commerce committees on the U.S. Senate and the Ways and Means, Appropriations, Energy and Commerce, Rules, International Relations, Armed Services, Intelligence, Judiciary, Homeland Security, and Transportation and Infrastructure committees on the House. Because a politician can serve on more than one committee, my second measure of power counts the number of influential committee seats politician *i* holds at time *t* (i.e., $No\_Powerful\_Committees_{it}$).

Similarly, because seniority has been proven to be an important measure of power (Roberts 1990), my third measure captures the seniority level of politician *i* at time *t* (i.e., $Seniority_{it}$). I measure seniority as the log of 1 plus the number of years since the date a politician was first elected to Congress. I collect from CRP the first year a politician is elected and then subtract this year from year *t*. My final measure of power focuses on whether a politician is incumbent. When candidates win elections, and become incumbent, their ability to help firms increases. Thus, incumbent politicians are more able to help firms than non-incumbent politicians. All the politicians in my sample were incumbents at some point; otherwise I would not be able to observe their ownership. One of the nice features of the disclosure reporting is that the annual personal financial disclosure forms of politicians cover the prior calendar year. Thus, I can observe the ownership of new politicians, entering the congress for the first time during my sample period, at a time period where they were not yet incumbent. Using this feature of my data I create the variable $Incumbent_{it}$, that is, an indicator variable that takes a value of 1 if politician *i* is incumbent at time *t*, and zero otherwise.[21]

I include these four measures of power independently in equation 1, along with their interaction terms with PAC_{jit}. **H2** predicts a positive coefficient on each of the coefficients on the interaction terms. Table 3 presents the results for **H2**. Columns 2, 3, 4, and 5 report the respective results of using $Powerful\_Committee_{it}$, $No\_Powerful\_Committees_{it}$, $Seniority_{it}$, and

[21] Since the ownership data, offered by the Center for Responsive Politics, starts in 2004, I can only observe the non-incumbency period for 64 Congress members.

$Incumbent_{it}$ as my measure of power. As shown in Columns 2–5, the coefficients on the interaction terms are all positive as well as significant. Thus, my results support my prediction that the association between ownership and contribution is increasing in politicians' power.

3.2.1.2.3. Monitored Politicians

The final test focuses on those politicians who are under investigation for ethics issues. My dataset includes 50 Congress members who are under investigation at some point during my sample period. I predict that politicians invest more in contributing firms than in non-contributors during the time periods when they are 'not' yet under investigation, but not during the time periods when they are under investigation. To test this prediction I split the indicator variable PAC_{jit} into two sub-indicator variables. The first is $PAC\_Non-Investigation_{jit}$, which is defined as an indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j and* is 'not' under investigation in year *t*, and zero otherwise. The second is $PAC\_Investigation_{jit}$, which is defined as an indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j and* is under investigation in year *t*, and zero otherwise. I also include the variable $Investigation_{it}$, which is an indicator variable that equals unity if politician *i* is under investigation in year *t*, and zero otherwise. Table 4 reports the results of this test. Consistent with my prediction, the results in Table 4 shows a significant positive coefficient on $PAC\_Non-Investigation_{jit}$, and an insignificant coefficient on $PAC\_Investigation_{jit}$. These results suggest that when politicians are under scrutiny, their investment allocations are no longer biased toward contributing firms.

3.2.2. Hypothesis 3: *Ownership-contribution association and actual benefits to firms*

If the association between ownership of politicians and firms' contributions to those politicians captures the relation between them, I hypothesize that the strength of this association explains the provision of private benefits from politicians to firms. I focus on the award of government contracts as the measure of private benefits to firms. To test this hypothesis, I first estimate the following Tobit model annually for each firm,

$$y_i^* = \beta\, PAC_i + \varepsilon_i \qquad (4),$$

$$y_i = y_i^* \text{ , if } y_i^* \geq 0$$

$$\text{or} \quad 0 \text{ , if } y_i^* < 0$$

where y_i^* is politician *i*'s desired amount of ownership in the firm, while y_i is the actual amount of ownership. If the desired amount of ownership is positive, then the actual ownership equals the desired ownership. If the desired amount of ownership is negative, then the actual ownership ($Ownership_i$) is zero. I measure the actual ownership as the natural logarithm of the dollar amount of shares owned if politician *i* invests, and zero if he or she does not invest. PAC_i is an indicator variable that equals unity if politician *i* receives a campaign contribution from the firm, and zero otherwise. β, which I refer to as *Ownership-Contribution Association*, in equation (4) is my measure of the mutual relation between a firm and the politicians who invest in this firm.

When there is a positive association between politicians' ownership in these firms and firms' contributions (i.e., when β in equation 4 is positive), a mutual relation between politicians and firms is likely to exist. In contrast, when there is a zero (or a negative) association between politicians' ownership and firms' contributions (i.e., when β is zero or negative), it is less likely that a mutual tie between politicians and firms exists. This is because not every politician invests for the purpose of establishing a close relationship with the firm, and firms may contribute to politicians during elections solely to support their government of choice, rather than to establish mutual connections with politicians. In addition, some politicians may even shy away from firms that contribute to their election campaigns in order to avoid conflicts of interest. Therefore, my measure of a mutual relation, i.e., *Ownership-Contribution Association*, takes the value of β when it is positive, and zero when β is either zero or negative. After estimating equation 4, I find that β is positive for 502 firm-year observations (belonging to 227 firms). Table 1, Panel B presents the descriptive statistics for β. I include my measure *Ownership-Contribution Association* in equation (5) below to test my hypothesis that there is a positive association between government contracts awarded to firm and the Ownership-Contribution Association:

$$Government\_Contracts_{jt} = \beta_0 + \beta_1\ Ownership\_Contribution\_Association_{jt} + \beta_2\ Controls_{jt} + \xi_{jt} \quad (5)$$

I use two measures of government contracts. The first, $Contract\_Amounts_{jt}$, is defined as the log of 1 plus the aggregate values of procurement contracts awarded to firm *j* at time *t*. The second measure is $Contract\_numbers_{jt}$, which is defined as the log of 1 plus the aggregate number of contracts. Because 769 of the 2,443 firm-year observations in my sample (i.e., approximately 31.5%) have no contracts, I estimate equation (5) using a Tobit model.

There is a concern that variations in *Ownership-Contribution Association* across firms actually capture differences in firm-specific characteristics that also drive government contracts. To mitigate this concern, I control for determinants of contracts, such as firm size, that can also drive ownership-contribution association. I also control for other determinants of contracts following Goldman, Rocholl, and So (2008). Specifically, my controls include: $Size_{jt}$, BM_{jt}, $Herfindahl\_Index_{jt}$, $CAPX/Sales_{jt}$, ROA_{jt}, and $COGS/Sales_{jt}$. See the Appendix for a definition of these variables and their data sources. To mitigate the influence of outliers, I winsorize these determinants at the 1% and 99% levels. Using the two-digit SIC Industry Classifications, I include a full set of industry dummies. I also include a full set of year dummies.

Table 5 presents the results of my third hypothesis. Columns 1 and 2 (3 and 4) present the results of using the aggregate size (number) of the procurement contracts as the measure of government benefits. Specifically, Column 1 presents a significant positive association between the aggregate size of the contracts awarded to firms and the firm-level Ownership-Contribution Sensitivity and Column 2 shows that this positive association remains significant at the 5% level, even after controlling for other contract determinants. Columns 3 and 4 report similar results using the aggregate number of contracts as the measure of government benefits. Overall, my findings support my third hypothesis that there is a positive association between government contracts awarded to firms and the Ownership-Contribution Association.

3.2.3. Hypothesis 4: Ownership concentration

In this section, I test **H4** that the ownership of politicians in a given industry is highly concentrated in a few firms. Specifically, based on the Herfindahl Hirschman Index (HHI) I compute a measure, which I refer to as Firm-HHI, for each politician *i* in each industry *d* at year *t*. For each politician, I first compute the share of each firm in the total ownership of that politician in this firm's industry.[22] For each politician, the Firm-HHI for a given industry is then calculated as the sum of the squared shares for each firm in the total ownership of the politician in that firm's industry. The Firm-HHI thus ranges from zero, when a politician invests in an infinite number of firms within the same industry, to 1, when a politician invests all of his ownership in a given industry in a single firm. My final measure is the average of the Firm-HHI

[22] I define industries using the two-digit SIC Industry Classifications.

across all politicians. **H4** predicts the value of the average Firm-HHI to be closer to 1, i.e., within each industry politicians on average concentrate their ownership in a single firm.

In order to have an overall picture of how these politicians are diversified within and across industries, I also compute another measure called Industry-HHI. Specifically, I compute for each politician the share of each industry in the total ownership of that politician. For each politician, the Industry-HHI is then calculated as the sum of the squared shares for each industry in the total ownership of that politician. The Industry-HHI thus ranges from zero, when a politician invests in an infinite number of industries, to 1, when a politician invests all of his ownership in a single industry. I then computed the average of Industry-HHI across all politicians.

Table 6 provides the descriptive statistics of both the *Firm-HHI* and *Industry-HHI* Consistent with my prediction. The average (median) *Firm-HHI* equals 0.91, while the average *Industry-HHI* equals 0.52 (0.43). These results suggest that while politicians somewhat diversify their investments across industries, within any single industry they choose to concentrate their ownership in most cases in one firm. That is politicians choose to invest in noncompeting firms.

3.2.4. Hypothesis 5: *Divesting the stocks and the termination of politician-firm relation*

In this section, I examine whether politicians who divest a firm's stocks and who do not serve in a committee affecting that firm are less likely to receive future contributions from the firm conditional upon having received contributions in the past; in contrast, the likelihood of receiving a contribution should not change for politicians who divest a firm's stock and are a member in a committee affecting the firm. To test these predictions, I estimate the following equation using conditional fixed effect logit model (by fixing the effect at the politician level):

$$PAC\_Discontinuation_{ijt} = \beta_0 + \beta_1\ Divest_{ijt-1} + \beta_2\ Divest_{ijt-1} * Com\_Firm\_Match_{ijt} + \beta_3 Com\_Firm\_Match_{ijt} + \beta_4\ Controls + u_{ijt} \quad (6)$$

where $PAC\_Discontinuation_{jit}$ is an indicator variable that takes the value 1 if politician *i* does 'not' receive a contribution from firm j at time t conditional upon receiving a contribution at time t-1, and zero when politician i receives contribution from firm j at time t conditional upon receiving a contribution at time t-1.[23] Every politician *i* in my sample is running for re-election at

[23] There is the concern that the non-payment of contribution at time t is due to paying the allowable maximum amount of contributions at time t-1, and not due to firms stopped supporting politicians. This situation can only happen when both years t and t-1 belong to the same election cycle since the limit on contributions is per election

time t.[24] $Divest_{ijt-1}$ is defined as an indicator variable that takes the value 1 when politician *i* is 'not' an investor in firm j at time t conditional upon being an investor at time t-1, and zero when politician *i* is an investor in firm j at time t conditional upon being an investor at time t-1. The variable $Divest_{ijt-1}$ has a one year lag because politicians disclose their investments of year t-1 at year t. Thus, firms know about the divestment decisions of politicians, that occurred in year t-1, at year t. $Com\_Firm\_Match_{ijt}$, is an indicator variable that takes a value of 1 when the industry to which firm *j* belongs is under the influence of politician *i*'s Congressional committee at time *t*, and zero otherwise. The set of controls includes the following (See Appendix I for definition of these variables): $State\_Firm\_Match_{ij}$, to account for the possibility that firms are less likely to terminate a relation with politician representing the state or district in which they are headquartered; $Seniority_{it}$ and Age_{it}, to account for the possibility that firms are more likely a) to continue the relation with senior politicians holding their age constant, and b) to terminate the relation with politicians that are about to retire holding their seniority constant (Krozner and Stratmann 2005).

There is a possibility that some changes in firm characteristics is what drive both the divestment decision of politicians and the discontinuation of firms' contributions. Failure to account for these changes might lead to an omitted variable bias. For example, a reduction in firm size might lead to divesting the stocks, and at the same time reduces firms' ability to continue supporting the candidates in the future. To account for this possibility, I include the variable $\Delta Size_{jt-1}$ which measures the change in firm size during the divest year.

Table 7 reports the results of estimating equation (6). Column 1 reports the logit model estimates when I only include the variable $Divest_{ijt-1}$. The sign is positive and significant at the 1% level, suggesting that if politicians divested their stocks, they are less likely to receive future contributions from the firm conditional upon being supported by the same firm in the past. Columns 2-5 report the results of estimating equation (6) with a conditional fixed effect logit model by fixing the effect at the politician level. Regardless of the specification, the results consistently shows a positive coefficient on $Divest_{ijt-1}$. When I interact $Divest_{ijt-1}$ with

---

cycle. In order to mitigate this concern, if politicians indeed received the maximum contribution in year t-1, I do consider that they also received contribution at time t.

[24] I exclude from my analysis the politicians that retired, resigned, moved to the Executive Branch or died at time t.

$Com\_Firm\_Match_{ijt}$, I find that the coefficient on the interaction term is negative. In addition, I find that the sum of the coefficients on $Divest_{ijt-1}$ and the coefficient on the interaction term, $Divest_{ijt-1} * Com\_Firm\_Match_{ijt}$, is insignificant. The latter results suggest the termination of the relation due to divesting the stocks does not occur when politicians are serving in a committee assignment affecting the firm. Overall, the results support my prediction that when politicians divest stocks they terminate their relation with contributing firms unless some other mechanisms protect their relations.

4. Concluding Remarks

Writing a fee-for-service contract, in which firms support politicians during the election and politicians, in turn, provide private benefits to these firms, is considered bribery and cannot be enforced by courts. Politicians and firms can renege on their promises and neither party has recourse. Uncertainty about how each party will act towards the other can lead to a breakdown in the politician-firm exchange market. If politicians, however, tie their own interests to those of firms by owning stock, they commit not to renege on their promises. This will enhance firms' incentives not to renege as well. In addition, by not divesting politicians reduce firms' uncertainty with regard to their actions toward the firms, and prolong their relationship with these firms. Taken together, share ownership by politicians serves as a mechanism that fosters repeated interactions, reputation building, and long-term relationships of politicians with firms in which they invest.

U.S. Congress members are required to disclose their financial dealings, as are U.S. firms that contribute to these politicians during elections. Collectively, these requirements allow me to examine whether ownership of politicians is a mechanism to establish relations with firms. Earlier research has shown that certain institutional features of Congress allow politicians and firms to forge enduring relations. My results suggest that in those cases where politicians and/or firms cannot avail themselves of these institutions, the stock ownership of politicians can avoid the break down of the politicians-firms exchange market.

References

Ansolabehere, S., and J. Snyder. 1999. Money and institutional power. *Texas Law Review* 77: 1673-1704.

Ansolabehere, S., J. Snyder Jr., and M. Ueda. 2004. Did Firms Profit from Soft Money? *Election Law Journal* 3: 193 -198.

Baron, D. 1989. Service-induced campaign contributions and the electoral Equilibrium. *Quarterly Journal of Economics* 104(1):45-72.

Benmelech, E. and T. Moskowitz. 2010. The Political economy of financial regulation: Evidence from U.S. state usury laws in the 19th century. *The Journal of Finance* 65(3): 1029-1073.

Bertrand, M., F. Kramarz, A. Schoar, and D. Thesmar. 2006. Politicians, firms and the political business cycle: Evidence from France. Working paper, University of Chicago Graduate School of Business, and MIT.

Boni, L. and K.L Womack. 2002. Wall street's credibility problem: Misaligned incentives and dubious fixes? Brookings-Wharton Papers on Financial Services 1: 93–130.

Bulow, J. and K. Rogoff. 1989. A constant recontracting model of sovereign debt. *Journal of Political Economy* 97 (1): 155-178.

Camerer, C, 1988. Gifts as economic signals and social symbols. *The American Journal of Sociology* 94: S180-S214.

Carmichael, H. and W. MacLeod, 1997. Gift giving and the evolution of cooperation. *International Economic Review* 38(3): 485-509.

Chamberlain, G. 1984. Panel data. In *Handbook of Econometrics*, edited by Z. Griliches, and M.D. Intrilligator, 1247-1318. Amsterdam, North-Holland.

Claessens, S. Feijen, and L. Laeven. 2008. Political connections and preferential access to finance: The role of campaign contributions. *Journal of Financial Economics* 88(3): 554-580.

Cohen, L. 2009. Loyalty Based Portfolio Choice. *Review of Financial Studies* 22: 1213-1245.

Cohen, L., J. Coval, and C. Malloy. 2009. Do powerful politicians cause corporate downsizing? Working paper, Harvard Business School.

Cole, S. 2009. Fixing market failures or fixing elections? Agricultural credit in India. *American Economic Journal: Applied Economics* 1(1): 219-250.

Cooper, M., H. Gulen, and A. Ovtchinnikov. 2009. Corporate political contributions and stock returns. *The Journal of Finance* 65(2): 687-724.

Correia, M. 2009. Political connections, SEC enforcement and accounting quality. Working paper, London Business School.

Coval, J., and T. Moskowitz. 1999. Home bias at home: Local equity preference in domestic portfolios**.** *The Journal of Finance* 54 (6): 2045-2073.

Desai, R., and A. Olofsgard. 2008. Do politically connected firms undermine their own competitiveness? Evidence from developing countries. Working paper, Brookings Global Economy and Development.

Dinç, S. 2005. Politicians and Banks: Political influences on government-owned banks in emerging countries. *Journal of Financial Economics* 77: 453-470.

Durden, G., J. Shorgen, and J. Silberman. 1991. The effects of interest group pressure on coal strip-mining legislation. *Social Science Quarterly* 72: 239-250.

Dyck, A., and L. Zingales. 2003. The media and asset prices. Working paper, Harvard Business School and University of Chicago.

Edwards, K., and C. Stewart III. 2006. The value of committee assignments in Congress since 1994. Working Paper, The Massachusetts Institute of Technology.

Faccio, M. 2006. Politically-connected firms. *American Economic Review* 96(1): 369- 386.

Faccio, M., R. Masulis and J. McConnell. 2006. Political connections and corporate bailouts. *The Journal of Finance* 61(6): 2597-2635.

Fisman, R. 2001. Estimating the value of political connections. *American Economic Review* 91: 1095-1102.

Goldman, E., J. Rocholl, and J. So. 2008. Political connections and the allocation of procurement contracts. Working paper, Indiana University, and University of North Carolina at Chapel Hill.

Goldman, E., J. Rocholl, and J. So. 2009. Do politically connected boards affect firm Value? *Review of Financial Studies* 22(6): 2331-2360.

Grier, K., and M. Munger. 1991. Committee assignments, constituent preferences, and campaign contributions. *Economic Inquiry* 29: 24-43.

Huberman, G. 2001. Familiarity breeds investment. *Review of Financial Studies* 14(3): 659-680.

Jayachandran, S. 2006. The Jeffords effect. *Journal of Law and Economics* 49: 397- 425.

Johnson, S. and T. Mitton. 2003. Cronyism and capital controls: Evidence from Malaysia. *Journal of Financial Economics* 67: 351-382.

Khwaja, A., and A. Mian. 2005. Do lenders favor politically connected firms? Rent provision in an emerging financial market. *Quarterly Journal of Economics* 120(4): 1371-1411.

Kroszner, R., and T. Stratmann. 1998. Interest-group competition and the organization of Congress: Theory and evidence from financial services' political action committees. *American Economic Review* 88: 1163-1187.

Kroszner, R., and T. Stratmann. 2000. Congressional committees as reputation-building mechanisms. *Business and Politics* 2(1): 35-52.

Kroszner, R., and T. Stratmann. 2005. Corporate campaign contributions, repeat giving, and the rewards to legislator reputation. *Journal of Law and Economics* 48(1): 41-71.

Langbein, L., and M. Lotwis. 1990. The political efficacy of lobbying and money: Gun control in the U.S. House, 1986. *Legislative Studies Quarterly* 15: 413-440.

Leuz, C., F. Oberholzer-Gee. 2006. Political relationships, global financing, and corporate transparency: Evidence from Indonesia. *Journal of Financial Economics* 81: 411-439.

Leuz, C., K. V. Lins, and F. E. Warnock. 2008. Do foreigners invest less in poorly governed firms? *Review of Financial Studies* 22 (8): 3245-3285.

McCarty, N. and L. Rothenberg. 1996. Commitment and the campaign contribution contract. *American Journal of Political Science* 40(3): 872-904.

Merton, R. 1987. A simple model of capital market equilibrium with incomplete information. *Journal of Finance* 42: 483-510.

Milgrom, P., D. North, and B. Weingast. 1990. The role of institutions in the revival of trade: The law merchant, private judges, and the champagne fairs. *Economics and Politics* 2(1): 1-23.

Ozerturk, S. 2007. Stock recommendation of an analyst who trades on own account. *RAND Journal of Economics* 38(3): 768-785

Ramanna, K. 2008. The implications of unverifiable fair-value accounting: Evidence from the political economy of goodwill accounting. *Journal of Accounting and Economics* 45: 253-281.

Ramanna, K., and S. Roychowdhury. 2010. Elections and discretionary accruals: Evidence from 2004. *Journal of Accounting Research* 48(2): 445-475.

Roberts, B. 1990. A dead Senator tells no lies: Seniority and the distribution of Federal benefits. *American Journal of Political Science* 34(1): 31-58.

Romer, T., and J. Snyder. 1994. An empirical investigation of the dynamics of PAC contributions. *American Journal of Political Science* 38: 745-769.

Samuels, D. 2001. Does money matter? Campaign finance in newly democratic countries: theory and evidence from Brazil. *Comparative Politics* 34: 23-42.

Sapienza, P. 2004. The effects of government ownership on bank lending. *Journal of Financial Economics* 72: 357-387.

Snyder, J. 1990. Campaign contributions as investments: The House of Representatives, 1980-1986. *Journal of Political Economy* 98: 1195-1227.

Stewart, C., and J. Woon. 2009. Congressional committee assignments, 103rd to 110th Congresses, 1993-2007.

Stratmann, T. 1991. What do campaign contributions buy? Deciphering causal effects of money and votes. *Southern Economic Journal* 57: 6060-6320.

Stratmann, T. 1995. Campaign contributions and congressional voting: Does the timing of contributions matter? *Review of Economics and Statistics* 77: 127-136.

Stratmann, T. 1998. The market for congressional votes: Is timing of contributions everything? *Journal of Law and Economics* 41: 85-113.

van Soest, A., and A. Kapteyn. 2006. Savings, portfolio choice, and retirement expectations. Working paper, Tilburg University.

Ziobrowski, A., P. Cheng, J. Boyd, and B. Ziobrowski. 2004. Abnormal returns from the common stock investments of the U.S. Senate. *Journal of Financial and Quantitative Analysis* 39(4): 661-676.

Weingast, B. and W. Marshall. 1988. The Industrial organization of Congress, why legislatures, like firms, are not organized as markets. *Journal of Political Economy* 96 (1): 132-163.

Veitch, J. 1986. Repudiations and confiscations by the medieval state. *Journal of Economic History* 46 (1): 31-36.

Williamson, O. 1985. Economic Institutions of Capitalism: Firms, Markets, Relational Contracting. New York: Free Press.

Wooldridge, J. 2002. Econometric Analysis of Cross Section and Panel Data. Cambridge, MA: MIT Press.

Table 1

Table 1 provides descriptive statistics for all variables. My sample includes the ownership of 709 politicians in 642 firms during the period 2004-2007. See Appendix 1 for variable definitions.

Panel A: Variables used for testing hypotheses one and two

Variable	Mean	Std. Dev.	Min.	Median	Max.
Politician-firm-specific characteristics:					
Time variant characteristics (N=1309727)					
$Ownership_{ijt}$ ($)	1708.3	284186.2	0	0	167875004
$Ownership_{ijt}$ [If > 0, N=17887] ($)	125084.3	2428673.9	1	8000.50	167875004
PAC_{jit}	0.052	0.222	0	0	1
$Com\_Firm\_Match_{ijt}$	0.15	0.355	0	0	1
$PAC\_Non-Investigation_{jit}$	0.0496	0.2171	0	0	1
$PAC\_Investigation_{jit}$	0.0025	0.0498	0	0	1
Time invariant characteristics (N=426434)					
$State\_Firm\_Match_{ij}$	0.043	0.203	0	0	1
Politician-specific characteristics:					
Time variant characteristics (N=2307)					
Net_Wealth_{it} (Millions)	6.586	28.572	–9.500	0.773	406.546
Age_{it} (Years)	56.855	10.070	26	57	90
$Powerful\_Committee_{it}$	0.821	0.383	0	1	1
$No\_Powerful\_Committee_{it}$	1.164	0.83	0	1	5
$Seniority_{it}$ (Years)	10.759	8.835	0	9	52
$Incumbent_{it}$	0.97	0.164	0	1	1
$Investigation_{it}$	0.036	0.185	0	0	1
Time invariant characteristics (N=709)					
$Gender_{i}$	0.839	0.368	0	1	1
$republican_{i}$	0.488	0.5	0	0	1

Firm-specific characteristics:					
Time variant characteristics (N=2273)					
$Size_{jt-1}$	23.013	1.091	20.712	22.905	26.007
BM_{jt-1}	0.399	0.221	0.032	0.361	1.230
$Return\ Volatility_{jt}$	0.017	0.006	0.007	0.015	0.077
$Momentum_{jt}$	0.143	0.304	–0.789	0.117	1.194
$Dividends_{jt}$	9.078	22.396	0	2.217	161.816
$Leverage_{jt}$	0.591	0.210	0.118	0.590	0.981
ROA_{jt}	0.061	0.061	–0.161	0.054	0.243
$PAC\ dem_{jt}$ (Millions)	0.026	0.056	0	0.002	0.510
$PAC\ rep_{jt}$ (Millions)	0.045	0.090	0	0.005	0.904
$PAC\ dem_{jt} - PAC\ rep_{jt}$ (Thousands)	–19	51	–575	0	169

Panel B: Variables used for testing hypothesis three

Variable	Mean	Std. Dev.	Min.	Median	Max.
Firm--specific characteristics					
Time variant characteristics (N=2443)					
$Contracts\ Amounts_{jt}$ ($)	247553508	1837695802	0	245772	34965437979
$Contracts\ Numbers_{jt}$	187	828	0	4	17625
$Ownership\_Contribution\_Association_{jt}$	2.34	6.48	0	0	62.85
$Ownership\_Contribution\_Association_{jt}$ [If > 0, N=502]	11.40	10.07	0.048	8.15	62.85
$Size_{jt}$	23.09	1.08	20.746	22.997	25.997
BM_{jt}	0.388	0.235	-0.091	0.350	1.215
ROA_{jt}	0.062	0.071	–0.566	0.054	0.503

$Herfindahl\_Index_{jt}$	0.061	0.061	0.01	0.037	0.343
$CAPX / Sales_{jt}$	0.067	0.097	0	0.037	0.629
$COGS / Sales_{jt}$	0.578	0.218	0.094	0.615	0.945

Panel C: Variables used for testing hypothesis five

Variable	Mean	Std. Dev.	Min.	Median	Max.
Politician-firm–specific characteristics:					
Time variant characteristics (N=1825)					
$PAC\_Discontinuation_{ijt}$	0.39	0.488	0	0	1
$Divest_{it-1}$	0.198	0.398	0	0	1
$Com\_Firm\_Match_{ijt-1}$	0.183	0.386	0	0	1
Time invariant characteristics (N=1244)					
$State\_Firm\_Match_{ij}$	0.147	0.354	0	0	1
Politician-specific characteristics:					
Time variant characteristics (N=430)					
$Seniority_{it}$ (Years)	12.853	8.258	1	12	53
Age_{it} (Years)	59.546	8.927	36	60	84
Firm-specific characteristics:					
Time variant characteristics (N=435)					
$\Delta Size_{jt-1}$	0.123	0.238	–0.723	0.109	1.186

Table 2

Table 2 presents Tobit model estimates of $Ownership_{ijt}$, which is defined as the natural logarithm of 1 plus the dollar amount of shares owned if politician *i* invests in firm *j* at time *t*, and zero if he or she does not invest. PAC_{jit} is an indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j* in year *t*, and zero otherwise. $Com\_Firm\_Match_{ijt}$, is an indicator variable that takes a value of 1 when the industry to which firm *j* belongs is under the influence of politician *i*'s Congressional committee at time *t*, and zero otherwise. $PAC\ dem_{jt} - PAC\ rep_{jt}$ is the difference between the sum of contributions paid to all Democratic candidates (regardless of whether the candidate is elected) by firm *j* in year *t* and the sum of contributions paid to all Republican candidates (regardless of whether the candidate is elected) by firm *j* in year *t*. $republican_i$ is an indicator variable equal to 1 if a politician *i* is republican, and zero otherwise. All other variables are defined in Appendix 1. The sample used for estimating the results reported in Column 1 includes politicians from every party (i.e., Democratic, Republican, Independent, and Third-party), while the sample used for estimating the results in Column 2 includes only those politicians belonging to either the Democratic or Republican Party. Standard errors corrected for clustering at the politician-firm level are reported in parentheses. * p < .10, ** p < .05, *** p < .01 (two-tailed test).

	(1) $Ownership_{ijt}$	(2) $Ownership_{ijt}$
PAC_{jit}	2.897***	2.238***
	(0.292)	(0.295)
$PAC\ dem_{jt} - PAC\ rep_{jt}$		0.008***
		(0.002)
$(PAC\ dem_{jt} - PAC\ rep_{jt}) * republican_i$		-0.009***
		(0.003)
$republican_i$		4.689***
		(0.239)
$Com\_Firm\_Match_{ijt}$	-0.511*	-0.499*
	(0.295)	(0.294)
$State\_Firm\_Match_{ij}$	4.474***	4.797***
	(0.460)	(0.459)
Net_Wealth_{it}	0.009***	0.010***
	(0.004)	(0.004)
Age_{it}	2.027***	1.184***

	(0.225)	(0.229)
$Gender_i$	-1.894***	-2.795***
	(0.270)	(0.272)
$Size_{jt-1}$	4.305***	4.349***
	(0.374)	(0.375)
BM_{jt-1}	1.884*	1.923*
	(1.004)	(1.002)
$Momentum_{jt}$	2.609***	2.641***
	(0.310)	(0.310)
Re*turn Volatility*$_{jt}$	178.913***	181.537***
	(22.304)	(22.205)
$Dividends_{jt}$	-0.013**	-0.012**
	(0.006)	(0.006)
$Leverage_{jt}$	-6.658***	-6.634***
	(1.271)	(1.269)
ROA_{jt}	1.108	1.360
	(2.186)	(2.178)
Year Indicators?	Yes	Yes
Politician Effect?	Yes	Yes
Firm Effect?	Yes	Yes
Intercept	-242.804***	-245.453***
	(3.226)	(3.229)
Ln_sigma	21.624***	21.468***
	(0.075)	(0.075)
N	1309727	1304008
pseudo R^2	0.088	0.092

Table 3

Table 3 presents Tobit model estimates of $Ownership_{ijt}$, which is defined as the natural logarithm of 1 plus the dollar amount of shares owned if politician *i* invests in firm *j* at time *t*, and zero if he or she does not invest. PAC_{jit} is an indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j* in year *t*, and zero otherwise. $Com\_Firm\_Match_{ijt}$, is an indicator variable that takes a value of 1 when the industry to which firm *j* belongs is under the influence of politician *i*'s Congressional committee at time *t*, and zero otherwise. $Powerful\_Committee_{it}$ is an indicator variable that takes a value of 1 if *politician i* is a member of an influential and powerful committee at time *t*, and zero otherwise. $No\_Powerful\_Committees_{it}$ is the number of seats on influential committees politician *i* occupies in year *t*. $Seniority_{it}$ is the log of 1 plus the number of years since the date a politician was first elected to Congress. $Incumbent_{it}$ is an indicator variable that takes a value of 1 if politician *i* is incumbent at time *t*, and zero otherwise. All other variables are defined in Appendix 1. The sample includes politicians from every party (Democratic, Republican, Independent, and Third-party). Standard errors corrected for clustering at the politician-firm level are reported in parentheses. * p < .10, ** p < .05, *** p < .01 (two-tailed test).

		(1) $Ownership_{ijt}$	(2) $Ownership_{ijt}$	(3) $Ownership_{ijt}$	(4) $Ownership_{ijt}$	(5) $Ownership_{ijt}$
PAC_{jit}	**(1)**	3.371***	-0.134	1.531***	1.316*	-12.290*
		(0.320)	(0.790)	(0.492)	(0.787)	(7.428)
$PAC_{jit} * Com\_Firm\_Match_{ijt}$	**(2)**	-2.561***				
		(0.728)				
Test 1 + 2 = 0 [p-value]		**[0.2220]**				
$Com\_Firm\_Match_{ijt}$		-0.138				
		(0.304)				
$PAC_{jit} * Powerful\_Committee_{it}$	**(3)**		3.491***			
			(0.836)			
Test 1 + 3 = 0 [p-value]			**[0.0000]**			

$Powerful\_Committee_{it}$		-0.488*			
		(0.276)			
$PAC_{jit} * No\_Powerful\_Committees_{it}$			1.089***		
			(0.293)		
$No\_Powerful\_Committees_{it}$			-0.287**		
			(0.133)		
$PAC_{jit} * Seniority_{it}$				0.721**	
				(0.320)	
$Seniority_{it}$				-0.675***	
				(0.152)	
$PAC_{jit} * Incumbent_{it}$	**(4)**				15.273**
					(7.434)
Test 1 + 4 = 0 [p-value]					**[0.0000]**
$Incumbent_{it}$					-3.388***
					(0.590)
Full Set of Controls Included		Yes	Yes	Yes	Yes	Yes
Year Indicators?		Yes	Yes	Yes	Yes	Yes
Politician Effect?		Yes	Yes	Yes	Yes	Yes
Firm Effect?		Yes	Yes	Yes	Yes	Yes
Intercept		-242.852***	-242.633***	-242.698***	-243.669***	-240.484***
		(3.225)	(3.226)	(3.226)	(3.237)	(3.239)
Ln_sigma		21.621***	21.620***	21.622***	21.620***	21.618***
		(0.075)	(0.075)	(0.075)	(0.075)	(0.075)
N		1309727	1309727	1309727	1309727	1309727
pseudo R^2		0.088	0.088	0.088	0.088	0.088

Table 4

Table 4 presents Tobit model estimates of $Ownership_{ijt}$, which is defined as the natural logarithm of 1 plus the dollar amount of shares owned if politician *i* invests in firm *j* at time *t*, and zero if he or she does not invest. $PAC\_Non-Investigation_{jit}$ is an indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j and* is 'not' under investigation in year *t*, and zero otherwise. $PAC\_Investigation_{jit}$ is an indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j and* is under investigation in year *t*, and zero otherwise. $Investigation_{it}$ is an indicator variable that equals unity if politician *i* is under investigation in year *t*, and zero otherwise. All other variables are defined in Appendix 1. The sample includes politicians from every party (i.e., Democratic, Republican, Independent, and Third-party). Standard errors corrected for clustering at the politician-firm level are reported in parentheses. * p < .10, ** p < .05, *** p < .01 (two-tailed test).

	$Ownership_{ijt}$
$PAC\_Non-Investigation_{jit}$	2.993***
	(0.293)
$PAC\_Investigation_{jit}$	1.483
	(1.695)
$Investigation_{it}$	-7.763***
	(0.569)
Full Set of Controls Included	Yes
Year Indicators?	Yes
Politician Effect?	Yes
Firm Effect?	Yes
Intercept	-242.685***
	(3.220)
Ln_sigma	21.587***
	(0.075)
N	1309727
pseudo R^2	0.089

Table 5

Table 5, Columns 1 and 2 present Tobit model estimates of $Contract\_Amounts_{jt}$, while Columns 3 and 4 present Tobit model estimates of $Contract\_numbers_{jt}$. $Contract\_Amounts_{jt}$ is defined as the log of 1 plus contract amounts. $Contract\_numbers_{jt}$ is defined as the log of 1 plus the aggregate number of contracts. $Ownership\_Contribution\_Association_{jt}$ is defined as the estimated coefficient on PAC_i obtained from the firm *j*-year *t* specific Tobit model that regresses $Ownership_i$ onto PAC_i; herein, $Ownership_i$ is defined as the natural logarithm of 1 plus the dollar amount of shares owned if politician *i* invests in the firm, and zero if he or she does not invest, and PAC_i is defined as an indicator variable that equals unity if politician *i* receives a contribution from the firm, and zero otherwise. All other variables are defined in Appendix 1. Standard errors corrected for clustering at the firm level are reported in parentheses. * p < .10, ** p < .05, *** p < .01 (two-tailed test).

	$Contract\_Amounts_{jt}$		$Contract\_numbers_{jt}$	
	(1)	(2)	(3)	(4)
$Ownership\_Contribution\_Association_{jt}$	0.116***	0.075**	0.031***	0.017*
	(0.036)	(0.035)	(0.010)	(0.009)
$Size_{jt}$		2.317***		0.867***
		(0.317)		(0.094)
BM_{jt}		0.028		0.266
		(1.633)		(0.425)
$Herfindahl\_Index_{jt}$		-1.824		2.153
		(10.646)		(2.756)
$CAPX / Sales_{jt}$		-2.699		0.103
		(6.141)		(1.715)
ROA_{jt}		-4.709		-2.105
		(4.856)		(1.348)
$COGS / Sales_{jt}$		5.072**		1.485**
		(2.264)		(0.641)
Year Indicators?	Yes	Yes	Yes	Yes
Industry Indicators?	Yes	Yes	Yes	Yes
Intercept	12.446*	-46.317***	5.280**	-17.269***
	(6.938)	(10.404)	(2.479)	(3.316)
Ln_sigma	8.561***	8.156***	2.405***	2.244***
	(0.303)	(0.302)	(0.081)	(0.078)
N	2443	2360	2443	2360
pseudo R^2	0.063	0.076	0.111	0.139

Table 6

Table 6 provides the descriptive statistics of two ownership concentration measures computed based on the Herfindahl Hirschman Index (HHI). The Firm-HHI ranges from zero, when a politician invests in an infinite number of firms within the same industry, to 1, when a politician invests all of 'his ownership in a given industry' in a single firm. The Industry-HHI ranges from zero, when a politician invests in an infinite number of industries, to 1, when a politician invests all of his ownership in a single industry.

Ownership Concentration Measures	Mean	Std. Dev.	Min.	Median	Max.
Firm-HHI	0.91	0.106	0.5	0.945	1
Industry-HHI	0.52	0.346	0.048	0.43	1

Table 7

Table 7, Column 1 presents logit model estimates of $PAC\_Discontinuation_{ijt}$, and Columns 2-5 present conditional fixed effect logit model estimates by fixing the effect at the politician level. $PAC\_Discontinuation_{jit}$ is an indicator variable that takes the value 1 if politician *i* does 'not' receive a contribution from firm j at time t conditional upon receiving a contribution at time t-1, and zero when politician i receives a contribution from firm j at time t conditional upon receiving a contribution at time t-1. $Divest_{ijt-1}$ is defined as an indicator variable that takes the value 1 when politician i is 'not' an investor in firm j at time t conditional upon being an investor at time t-1, and zero when politician i is an investor in firm j at time t conditional upon being an investor at time t-1. $Com\_Firm\_Match_{ijt}$, is an indicator variable that takes a value of 1 when the industry to which firm *j* belongs is under the influence of politician *i*'s Congressional committee at time *t*, and zero otherwise. All other variables are defined in Appendix 1. Standard errors are reported in parentheses. The standard errors reported in Column 1 are corrected for clustering at the politician-firm level.* p < .10, ** p < .05, *** p < .01 (two-tailed test).

		$PAC\_Discontinuation_{ijt}$				
		(1)	(2)	(3)	(4)	(5)
$Divest_{it-1}$	**(1)**	0.470***	0.521***	0.520***	0.671***	0.666***
		(0.119)	(0.160)	(0.161)	(0.178)	(0.179)
$Divest_{it-1} * Com\_Firm\_Match_{ijt}$	**(2)**				-0.693*	-0.682*
					(0.359)	(0.362)
Test 1 + 2 = 0 [p-value]					**[0.9460]**	**[0.9601]**
$Com\_Firm\_Match_{ijt}$			-0.084	-0.102	0.091	0.068
			(0.189)	(0.191)	(0.209)	(0.210)
$State\_Firm\_Match_{ij}$			-0.251	-0.257	-0.248	-0.255
			(0.166)	(0.167)	(0.166)	(0.167)
$Seniority_{it}$			-3.155***	-3.239***	-3.328***	-3.403***
			(1.171)	(1.197)	(1.177)	(1.203)
Age_{it}			0.441***		0.457***	
			(0.139)		(0.140)	
$\Delta Size_{jt-1}$			-0.364	-0.220	-0.376	-0.233
			(0.243)	(0.248)	(0.244)	(0.248)
Year Indicator?		No	No	Yes	No	Yes
Intercept		-0.575***				
		(0.057)				
N		1825	1679	1679	1679	1679
pseudo R^2		0.006	0.017	0.024	0.019	0.026

Appendix I

The source in each description indicates the origin of the data I use to compute the variables.

Variables	Description
Politician-firm-specific characteristics	
$Ownership_{ijt}$	The natural logarithm of 1 plus the dollar amount of shares owned if politician *i* invests in firm *j* at time *t*, and zero if he or she does not invest. Source: The Center for Responsive Politics
PAC_{jit}	An indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j* in year *t*, and zero otherwise. Source: The Center for Responsive Politics
$State\_Firm\_Match_{ij}$	It is defined, for Representatives, as an indicator variable that takes a value of 1 if both the headquarter of firm *j* and the Congressional district of politicians *i* belong to the same state, and zero otherwise., while defined, for Senators, as an indicator variable that takes a value of 1 if the headquarter of firm *j* are in the same state of politicians *i*, and zero otherwise. Source: The Center for Politics Response and Compustat
$Com\_Firm\_Match_{ijt}$	An indicator variable that takes a value of 1 when the industry membership of firm *j* is under the jurisdiction of the Congressional committee assignment of politician *i* at time *t*, and zero otherwise. Source: the Center for Responsive Politics, Compustat, and the website of Charles Stewart III (MIT) http://web.mit.edu/17.251/www/data_page.html
$PAC\_Non-Investigation_{jit}$	An indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j and* is 'not' under investigation in year *t*, and zero otherwise. Source: The Center for Responsive Politics, the Citizens for Responsibility and Ethics in Washington (CREW) and Judicial Watch
$PAC\_Investigation_{jit}$	An indicator variable that equals unity if politician *i* receives a campaign contribution from firm *j and* is under investigation in year *t*, and zero otherwise. Source: The Center for Responsive Politics, the Citizens for Responsibility and Ethics in Washington (CREW) and Judicial Watch

$PAC\_Discontinuation_{ijt}$	An indicator variable that takes the value 1 if politician *i* does 'not' receive a contribution from firm j at time t conditional upon receiving a contribution at time t-1, and zero when politician i receives a contribution from firm j at time t conditional upon receiving a contribution at time t-1. Source: The Center for Responsive Politics
$Divest_{it-1}$	An indicator variable that takes the value 1 when politician i is 'not' an investor in firm j at time t conditional upon being an investor at time t-1, and zero when politician i is an investor in firm j at time t conditional upon being an investor at time t-1. Source: The Center for Responsive Politics
Politician-specific characteristics	
$Net\ Wealth_{it}$	The difference between $Assets_{it}$ and $Liabilities_{it}$. *Assets* are the total number of all legal ownerships a politician has in a company or property, including brokerage accounts, corporate bonds, and stocks. Politicians should report only assets worth more than $1,000 at the end of the calendar year or producing more than $200 in income. Politicians report the value of each of their assets within one of several ranges. The Center for Politics Response compute a minimum (maximum) value of total assets by summing the minimum (maximum) values of individual assets owned by each politician. I use the average of the minimum and maximum values of total assets as the value of total assets owned by a politician. *Liabilities* include loans, credit card debt, and mortgages on properties that produce income. Congress members and top officials in the executive branch must report liabilities that total more than $10,000 at any time during the calendar year. Politicians report the amount of each of their liabilities within one of several ranges. The Center for Politics Response compute a minimum (maximum) value of total liabilities by summing the minimum (maximum) values of individual liabilities owed by each politician. I use the average of the minimum and maximum values of total liabilities as the value of total liabilities owed by a politician. Source: The Center for Responsive Politics

Age_{it}	The age of politician *i* at time *t*.
$Gender_i$	An indicator variable takes a value of 1 if politician *i* is male, and zero otherwise.
$republican_i$	An indicator variable equal to 1 if a politician *i* is republican at time *t*, and zero otherwise. Source: The Center for Responsive Politics
$Powerful\_Committee_{it}$	An indicator variable that takes a value of 1 if *politician i* is a member of an influential and powerful committee at time *t*, and zero otherwise. Source: The website of Charles Stewart III (MIT) http://web.mit.edu/17.251/www/data_page.html
$No\_Powerful\_Committees_{it}$	The number of seats on influential committees a politician *i* holds in year *t*. Source: The website of Charles Stewart III (MIT) http://web.mit.edu/17.251/www/data_page.html
$Seniority_{it}$	The log of 1 plus the number of years since the date a politician was first elected to Congress. Source: The Center for Responsive Politics
$Incumbent_{it}$	An indicator variable that takes a value of 1 if politician *i* is incumbent at time t, and zero otherwise. Source: The Center for Responsive Politics
$Investigation_{it}$	An indicator variable that equals unity if politician i is under investigation in year t, and zero otherwise. Source: The Citizens for Responsibility and Ethics in Washington (CREW) and Judicial Watch
Firm-specific characteristics	
PAC_rep_{jt}	The sum of all contributions paid to all Republican candidates (regardless of whether the candidate is elected) by firm *j* in year *t*. Source: The Center for Responsive Politics
PAC_dem_{jt}	The sum of all contributions paid to all Democratic candidates (regardless of whether the candidate is elected) by firm *j* in year *t*. Source: The Center for Responsive Politics
$PAC\ dem_{jt} - PAC\ rep_{jt}$	The difference between PAC_dem_{jt} and

	PAC_rep_{jt}. Source: The Center for Responsive Politics
$Contract\_Amounts_{jt}$	The log of 1 plus contract amounts Source: Eagle Eye Publishers, Inc. http://www.usaspending.org
$Contract\_Numbers_{jt}$	The log of 1 plus the aggregate number of contracts. Source: Eagle Eye Publishers, Inc. http://www.usaspending.org
$Ownership\_Contribution\_Association_{jt}$	The estimated coefficient on PAC_i obtained from the firm *j*-year *t* specific Tobit model that regresses $Ownership_t$ onto PAC_i. Source: Estimated by the author using data from the Center for Responsive Politics
$Size_{jt}$	The log of the market capitalization for firm *j* at the end of year *t*. Source: Compustat
$Size_{jt-1}$	The log of the market capitalization for firm *j* at the beginning of year *t*. Source: Compustat
BM_{jt}	The book-to-market ratio for firm *j* at the end of year *t*. Source: Compustat
BM_{jt-1}	The book-to-market ratio for firm *j* at the beginning of year *t*. Source: Compustat
$Momentum_{jt}$	The twelve-month buy-and-hold stock return. Source: CRSP
$Return\ Volatility_{jt}$	The standard deviation of daily returns. Source: CRSP
$Dividends_{jt}$	Dividends per share divided by the year-end share price. Source: Compustat and CRSP
$Leverage_{jt}$	The ratio of total debt to total assets for firm *j* at time *t*. Source: Compustat
ROA_{jt}	The income before extraordinary items available to common divided by total assets. Source: Compustat
$Herfindahl\_Index_{jt}$	The Herfindahl sales concentration index that

	controls for the intensity of competition for government contracts between firm j and its competitors and is based on the total sales of all firms with the same two-digit SIC code. Source: Compustat
$CAPX / Sales_{jt}$	The ratio of capital expenditure to sales for firm *j* in year *t*. It controls for the possibility that a company expanded its facilities to increase future production. Source: Compustat
$COGS / Sales_{jt}$	The ratio of cost of goods sold to sales for firm *j* at time *t*. It captures the firm's cost-efficiency and attendant likelihood of being awarded government contracts. Source: Compustat
$\Delta Size_{jt-1}$	The change in firm size during year t-1. Source: Compustat

Appendix II

The Case of Representative Jerry Lewis (R-CA)

Representative Jerry Lewis (R-CA) is a sixteen-term member of Congress and has been a member of the House Appropriations Committee since 1980. From 2005 to 2006, he served as chairman of the full committee, and he currently serves as a ranking member. Rep. Lewis' ethical issues arise from his misusing of his position on the Appropriations Committee to steer hundreds of millions of dollars in earmarks to family, friends, former employees, and corporations in exchange for contributions to his campaign committee:

"In 2005, shortly after becoming chairman of the Appropriations Committee, Rep. Lewis was asked to buy into an initial public offering of a fledgling bank, Security Bank of California, headed by his close friend James Robinson. Rep. Lewis' initial investment of $22,000 for 2,200 stocks in Security Bank was worth nearly $60,000 in 2006, an increase of almost 300%. The stock was recommended to Rep. Lewis by Mr. Robinson's wife, a former chair and board member of the Loma Linda University Children's Hospital Foundation, a branch of Loma Linda University Medical Center. Rep. Lewis has helped direct more than $200 million in federal dollars to the medical center, which has facilities named in his honor. In June 2006, Rep. Lewis acknowledged that the medical center benefitted from $40 million in earmarks. Many of Security Bank's board members have also contributed to Rep. Lewis' campaign and are linked to businesses that received federal earmarks. They include Zareh Sarrafian, an executive with Loma Linda Medical Center and president of the Hospital Foundation's board, and Bruce Varner, a friend of Rep. Lewis' who served on the board of the National Orange Show Events Center in San Bernardino. The center has received more than $800,000 in federal funds." (Crew report 2009, pp. 37–38)

The Case of Representative Maxine Waters (D-CA)

Representative Maxine Waters (D-CA) is a ten-term member of Congress and a senior member of the House Financial Services Committee. She arranged a meeting between the Department of Treasury and OneUnited Bank, a company with close financial ties to Ms. Waters, involving both investments and contributions.

"In September 2008, Rep. Waters asked then-Secretary of the Treasury Henry Paulson to hold a meeting for minority-owned banks that had suffered from Fannie Mae and Freddie Mac losses. The Treasury Department complied and held a session with approximately a dozen senior banking regulators, representatives from minority-owned banks, and their trade association. Officials of OneUnited Bank, one of the largest black-owned banks in the country that has close ties to Rep. Waters, attended the meeting along with Rep. Waters' chief of staff. Kevin Cohee, chief executive officer of OneUnited, used the meeting as an opportunity to ask for bailout funds. . . . Former Bush White House officials stated they were surprised when OneUnited Officials asked for bailout funds. . . . In December 2008, Rep. Waters intervened again, asking Treasury to host another meeting to ensure minority-owned banks received part of the $700 billion allocated under the Troubled Asset Relief Program. . . . Within two weeks, on December 19, 2008, OneUnited secured $12.1 million in bailout funds. . . . This was not the first time Rep. Waters

used her position to advance the interests of the bank. Rep. Waters' spouse, Sidney Williams, became a shareholder in OneUnited in 2001, when it was known as the Boston Bank of Commerce. In 2002, Boston Bank of Commerce tried to purchase Family Savings, a minority-owned bank in Los Angeles. Instead, Family Savings turned to a bank in Illinois. Rep. Waters tried to block the merger by contacting regulators at the FDIC. She publicly stated she did not want a major white bank to acquire a minority-owned bank. When her efforts with the FDIC proved fruitless, Rep. Waters began a public pressure campaign with other community leaders. Ultimately, when Family Savings changed direction and allowed Boston Bank of Commerce to submit a winning bid, Rep. Waters received credit for the merger. The combined banks were renamed OneUnited. . . . In March 2004, she acquired OneUnited stock worth between $250,001 and $500,000, and Mr. Williams purchased two sets of stock, each worth between $250,001 and $500,000. In September 2004, Rep. Waters sold her stock in OneUnited and her husband sold a portion of his. That same year, Mr. Williams joined the bank's board. . . . OneUnited Chief Executive Kevin Cohee and President Teri Williams Cohee have donated a total of $8,000 to Rep. Waters' campaign committee. . . . On October 27, 2009, less than two months before OneUnited received a $12 million bailout, the bank received a cease-and-desist order from the FDIC and bank regulatory officials in Massachusetts for poor lending practices and excessive executive compensation . . . the bank provided excessive perks to its executives, including paying for Mr. Cohee's use of a $6.4 million mansion . . ." (Crew report 2009, pp. 123–125)