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# Corporate Political Contributions and Stock Returns

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**ABSTRACT**

We develop a new and comprehensive database of firm-level contributions to U.S. political campaigns from 1979 to 2004. We construct variables that measure the extent of firm support for candidates. We find that these measures are positively and significantly correlated with the cross-section of future returns. The effect is strongest for firms that support a greater number of candidates that hold office in the same state that the firm is based. In addition, there are stronger effects for firms whose contributions are slanted toward House candidates and Democrats.

DESPITE A SPATE OF RECENT events concerning lobbyists and other special interest groups and their alleged undue influence on elected officials,[1] the U.S. political system is viewed by many as a relatively fair and impartial form of government, especially when compared to other governments (Kaufmann, Kraay, and Mastruzzi (2003)). However, in the United States, firms that contribute money to politicians appear to enjoy more frequent and better-quality access to politicians (Kroszner and Stratmann (1998), Langbein and Lotwis (1990), Durden et al. (1991), Stratmann (1991, 1995, 1998)), although contributing firms and firms with other types of political connectedness do not appear to change the outcome of votes on issues critical to connected firms. For example, Ansolabehere, de Figueiredo, and Snyder (2003) survey 36 studies on the political efficacy of interest group contributions to politicians and find that contributions apparently have relatively little effect on voting outcomes.

While, on average, corporate contributions may not help the donating firms influence voting outcomes, there is evidence that the funds raised by candidates help them win elections. Snyder (1990) documents a positive relation between

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[1] Many examples of past and present political controversies can be found at The Center for Responsive Politics web page at http://www.crp.org/.

the amount of contributions coming from special interest groups and the probability of a legislator winning an election.[2] In addition, Grier and Munger (1991), Romer and Snyder (1994), and Ansolabehere and Snyder (1999) show that influential legislators (i.e., party leaders, committee chairs, and members of powerful committees) raise substantially more funds than other legislators. So, contributions appear to increase the welfare of the candidates. But are contributions associated with an increase in the value of corporate contributors?

In this article, we address this important question by studying whether there exists a robust relation between firm contributions and contributing firm returns. Using data from the U.S. Federal Election Commission (FEC), we create a new and comprehensive database of publicly traded firms' political action committee (PAC) contributions to political campaigns in the U.S. from 1979 to 2004. After merging the FEC contributions data with CRSP/Compustat data, we have approximately 819,000 contributions made by 1,930 firms over the past 25 or so years—thus, we have a remarkably rich data set to test for systematic contribution-return effects arising from publicly traded firms' involvement in the U.S. political process. Our sample captures over 70% of the total dollar volume of all hard money corporate contributions and represents on average 60% of the market value–weighted capitalization of all publicly traded firms in the United States.

We develop a simple measure to describe firms' political contribution practices that takes advantage of the comprehensive nature of the FEC data. We view each firm as supporting a portfolio of candidates and simply sum up, over a rolling multiyear window, the number of candidates that each firm supports. We find that the average firm participating in the political donation process contributes to 73 candidates over any 5-year period, 53 of whom go on to win their elections. There is substantial variability across firms in the number of supported candidates, with a standard deviation of approximately 96 candidates.

We perform panel regressions of annual abnormal returns on the lagged number of supported candidates and other control variables. We find that the number of supported candidates has a statistically significant positive relation with future abnormal returns for firms that contribute to political candidates. The relation is evident in univariate regressions of abnormal returns on the number of supported candidates as well as in multivariate regressions after controlling for other established predictors of returns such as book-to-market (BM), firm capitalization (SIZE), and momentum, measured by lagged 12-month buy-and-hold returns (BHRET12).

To better understand the sources of the contribution effect, we examine variations on our basic measure of total supported candidates. These modified measures capture the total strength of the relationships between candidates and the contributing firm (as measured by the length of the firm-candidate relationship), the ability of the candidates to help the firm (as measured by the home state of the firm and the candidate), and the power of the candidates (as

[2] Stratmann (2005) provides a survey of the related literature.

measured by a candidate's committee ranking). We find that our results are robust to these alternative contribution definitions. We document especially strong effects for a measure related to the ability of the candidate to help the donating firm. Thus, the contribution effect appears to increase for firms that have longer relationships with candidates that support more home candidates, and support more powerful candidates.

We further break the contributions data up into House and Senate categories. We find that there is an incremental House effect after controlling for the Senate effect, although contributions to both branches of government result in positive economic effects for the contributing firms. Our finding of an incremental effect for firms supporting House candidates may be related to the constitutional provision that revenue and appropriations bills must originate in the House. Thus, firms may find that it is more expedient to support House members, where potential firm value–increasing actions may be more suitably created. We also split our sample along political party lines. The FEC data show that Republican candidates typically receive higher total dollar contributions than do Democrats and that Republican candidates' contributions come from a larger number of supporting firms than do Democrat candidates' contributions. However, despite the fact that Republicans receive more contributions than Democrats, we find an incremental contribution effect for Democrats after controlling for Republican effect, but do not find an incremental Republican effect after controlling for the Democrat effect.

We also create annually rebalanced political index–weighted portfolios. We find that the portfolios earn abnormal returns. For example, a portfolio of firms weighted by the number of supported candidates has a statistically significant Fama–French–Carhart four-factor model abnormal monthly return of 21 basis points (or about 2.4% per year).

Our article is not the first to document wealth effects to firms from being connected to politicians; there is an important and growing literature on the benefits to firms that exhibit a degree of connectedness to politicians. These studies examine connectedness arising from (1) explicit relationships between firms and politicians (e.g., the politician is a member of the firm's board of directors) and (2) firm contributions to a politician's coffers.

Connectedness arising from explicit relationships appears to be important for firm value. Faccio (2006) examines stock price reactions to the announcement of two potentially connectedness-increasing events: (1) that a firm's officer or a large shareholder enters politics, and (2) that a politician joins a firm's board. She documents an over 2% increase in firm value at the announcement that an officer or large shareholder enters politics. Faccio and Parsley (2009) document an approximate 2% decline in the market value of firms connected to legislators for a sample of 123 legislators who die unexpectedly. Fisman (2001) examines Indonesian firms that are connected to the Suharto family and shows that these companies decrease in value following unfavorable announcements about the health of President Suharto. Faccio, Masulis, and McConnell (2006) find that the likelihood of government bailouts of financially distressed firms increases for firms that have

a top company officer or a large shareholder in an important government position.[3]

Connectedness arising from firm contributions to politicians also appears to be important for firm value. Roberts (1990) finds a decrease in firm value at the time of death of U.S. Senator Henry Jackson for firms that made contributions to his campaign. Jayachandran (2006) analyzes the announcement effects of Senator Jim Jeffords' decision to leave the Republican Party in 2001, a decision that transferred the control of the Senate from Republicans to Democrats. He finds that the decision resulted in an almost 1% decline in the market value of firms contributing to Republicans and an increase in market value for firms supporting Democratic candidates. Goldman, Rocholl, and So (2009) find that individual firms connected to the U.S. Republican Party increased in value after the Republican win in the 2000 Presidential elections. Ansolabehere, Snyder, and Ueda (2004) study return effects to firms that either did or did not give soft money donations around five important events in the approval of the Bi-Partisan Campaign Reform Act (BCRA), which banned soft money contributions. They find no noticeable return differences across donor and nondonor firms for the five events surrounding the BCRA.

Overall, the existing research on the value to the firm of political connections is intriguing; many of the papers document a stock price response to announcements of changes in the degree of political connectedness, and find that this response is greater in more corrupt countries. However, the results may be difficult to generalize because they are usually obtained with relatively small samples and because they are based on isolated events. In contrast, in this article, using our merged FEC/CRSP/Compustat database, we are able to construct firm-specific year-by-year connectedness measures that allow us to perform tests over the full sample, something that has not been possible with previous event-based measures of political connectedness. With this new data set, we document a strong correlation between contributions and future returns.

However, do we document evidence of a causal link from firm PAC contributions to future stock prices? Answering this question in the affirmative requires resolving potential endogeneity problems with our data; our finding of a link between contributions and future returns may simply be driven by unobserved firm characteristics that are correlated with contributions and are also the main cause of increased returns. Several of the aforementioned papers on firm political connectedness offer evidence that is consistent with causation, and later in the article we show that contributions are correlated with increases in future operating performance, which suggests an economic link between contributions and returns, consistent with causation, but the evidence is not conclusive. Overall, we view our work as an initial attempt to carefully study

[3] See also Leuz and Oberholzer-Gee (2006), who study the role of political connections and their implications for firms' financing and long-run financial performance in Indonesia, and Fisman et al. (2006), who examine the value to firms of having personal ties to U.S. Vice President Dick Cheney.

a rich new panel data set of firm-level political contributions and returns. Our hope is that future work, perhaps using this article's new contributions database along with legislation and other information, can further analyze the issue of causality and the related topic of whether the correlations between contributions and returns arise from mispricing or risk.

The remainder of the article is organized as follows. In Section I, we describe the data used in our analysis and detail the construction of the firm political contribution measures. In Section II, we present results that document the effects of political contributions on future returns. In Section III, we discuss possible sources of the contribution effect. Section IV concludes.

## I. Data Sources and Variable Construction

### *A. Contribution Data*

Our data on corporate contributions come from the FEC detailed committee and candidate summary contribution files for the period 1979 to 2004.[4] We merge the FEC data with CRSP/Compustat data and build a comprehensive database of firm contributions, monthly returns, and annual firm accounting characteristics from 1984 to 2005 (our political contribution measures require 5 years of data, so the test variables start in 1984). We first describe the FEC data, detail the construction of contribution variables designed to capture return effects, and then describe the full merged FEC/CRSP/Compustat data set.

We obtain FEC data on total campaign financing raised by each candidate's (re)election campaign. The contribution data comprise all "hard money" contributions, meaning that they are made to specific candidates and the contributions are limited to $10,000 per candidate per election cycle ($5,000 contributed during a primary election and $5,000 contributed during a general election).[5] See the internet Appendix available on the *Journal*'s website for details on the limits of contributions and other aspects of campaign finance law.[6] The FEC database identifies seven distinct groups that contribute to candidates' campaigns: (1) individuals, (2) labor organizations, (3) corporations, (4) trade, membership, and health organizations, (5) party committees, (6) nonparty committees, and (7) corporations without capital stock. We obtain data on total funds received by each candidate from each of these groups. The FEC detailed

[4] The summary file provides data on how much total money each candidate received from different interest groups, what the total cost of the election was, and other related information. The detailed file provides contribution-by-contribution data for each candidate. It records all contributions in excess of $200 made by all special interest groups (corporations for our purposes), the date of the contribution, and the amount.

[5] This is in contrast to "soft money" contributions, which are noncandidate-specific contributions from individuals and special interest groups used on voter registration expenses, "get out the vote" campaigns, "party building," issue advertising, and other administrative expenses. The Bipartisan Campaign Reform Act of 2002 banned soft money contributions.

[6] The Internet Appendix is available at http://www.afajof.org/supplements.asp.

committee contribution file consists of 2,794,790 contributions made by all special interest groups to all candidates running for President or for office in the Senate or House of Representatives. We limit our sample to all contributions made by corporations through their corporate PACs (1,064,830 observations). After further deleting private firms, subsidiaries of foreign firms, and firms with no data on CRSP, we are left with 819,815 contributions made by 1,930 unique firms. Thus, not all publicly traded firms have PACs; we find that on average only 9.49% of firms listed on the combined CRSP/Compustat database participate in the contribution process and these tend to be very large firms (e.g., the average capitalization of contributing firms in 2004 places them at the top 8% of NYSE market cap).

We obtain data on the identity of the contributing firm, the date and amount of contribution, and the identity of the receiving candidate. For each receiving candidate, we also obtain data from the FEC on the sought-after public office, the state and district for which the candidate is running, the candidate's party affiliation, and the election outcome. For all elected officials, we obtain data on their committee assignments and their party rankings on each serving committee. This data comes from Charles Stewart's Congressional Data Page.[7] Figure 1 reports the giving totals for each of the seven groups (aggregated across all candidates for each 2-year election cycle). Panel A reports the results for the House races.[8] Panel B reports the results for the Senate races, in which one-third of all senators seek reelection each election cycle.

Individuals constitute the largest group of contributors, contributing between 60% and 80% of total campaign financing for the Senate races and between 40% and 60% of total campaign financing for the House races. This totals over $3.8 billion during the 26-year period. It is worth pointing out that individual contributions are spread over many individuals who contribute in small amounts: Ansolabehere et al. (2003) estimate that the average individual contribution is a trivial $115.

Corporate contributions constitute a notably lower fraction of candidates' total campaign financing. However, we document below that because these contributions come from significantly fewer firms (relative to individual contributions), their dollar amounts are much larger than those of individuals. On average, corporate contributions comprise 12% (10%) of total campaign financing for Republican (Democrat) candidates running for the House and 9% (5%) for Republican (Democrat) candidates running for the Senate. There is significant heterogeneity in how much financing comes from corporations across different candidates. We find that the ratio of corporate contributions to total money raised ranges from 0% to 90.59% (53.87%) for Republicans (Democrats) running for the House and from 0% to 39.20% (28.46%) for Republicans (Democrats) running for the Senate.

[7] We thank Charles Stewart III for generously providing this data on his website http://web.mit.edu/17.251/www/data_page.html.

[8] In these figures, we concentrate on House and Senate contributions. This is because firms contribute only insignificantly to Presidential races.

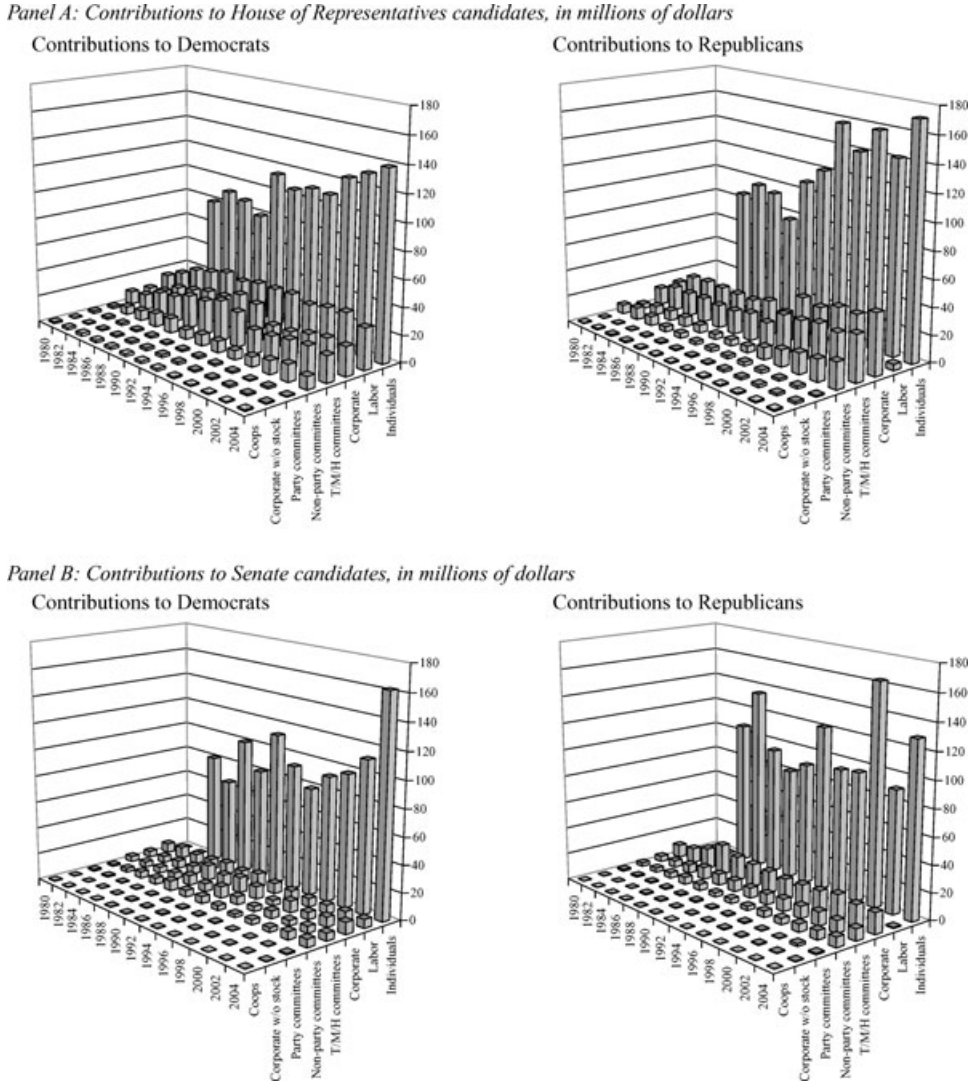


**Figure 1. Sources of election funds, 01/1979 to 12/2004.** The data come from the FEC summary files on political contributions to House and Senate elections for the period 1979 to 2004. Panel A presents summary data for the House of Representatives elections. Panel B presents summary data for the Senate elections. Contributions are reported for different classes of contributors. Coops are organizations that define themselves as cooperatives. Corporate w/o stock are corporations without capital stock. Party committees are national party committees. Nonparty committees are committees that are not directly affiliated with any parties. T/M/H committees are organizations affiliated with trade associations, membership organizations, or organizations in the health field. Corporate are private and public corporations. Labor are organizations connected with labor entities. Individuals are individual contributors. All figures are in millions of 12/2004 dollars.

**Table I**

**Firm Contribution Characteristics, 01/1979 to 12/2004**

This table presents data from the Federal Election Commission (FEC) detailed files on political contributions to House, Senate, and Presidential elections for the period from 1979 to 2004. We exclude all noncorporate contributions, contributions from private firms and subsidiaries of foreign firms, as well as contributions from firms for which there are no return data on CRSP. The sample includes 819,815 contributions made by 1,930 unique firms. The table reports firm contribution characteristics per firm, per election cycle. All figures in Panel A are in 12/2004 dollars.

| Variable | Mean | Min | 25th Per | Median | 75th Per | Max |
|---|---|---|---|---|---|---|
| Panel A: Dollar Amount of Firm Contributions per Election Cycle | | | | | | |
| Total contributions | $64,694 | 29 | 3,606 | 15,657 | 60,668 | 2,713,367 |
| Candidates | | | | | | |
| Democrats | 30,758 | 33 | 2,347 | 8,352 | 29,530 | 1,439,031 |
| Republicans | 43,126 | 29 | 3,037 | 11,327 | 41,431 | 1,614,756 |
| Races | | | | | | |
| House | 50,176 | 41 | 3,556 | 14,110 | 48,920 | 2,195,978 |
| Senate | 26,258 | 19 | 2,708 | 8,854 | 28,058 | 658,160 |
| Presidential | 5,660 | 11 | 1,365 | 3,661 | 6,801 | 84,530 |
| Panel B: Number of Firm Contributions per Election Cycle | | | | | | |
| Number of contributions | 56 | 1 | 3 | 15 | 57 | 1,930 |
| Number of candidates | 31 | 1 | 2 | 10 | 38 | 564 |
| Candidates | | | | | | |
| Democrats | 16 | 1 | 2 | 6 | 19 | 338 |
| Republicans | 20 | 1 | 2 | 7 | 25 | 245 |
| Races | | | | | | |
| House | 29 | 1 | 3 | 11 | 36 | 505 |
| Senate | 8 | 1 | 2 | 4 | 12 | 64 |
| Presidential | 2 | 1 | 1 | 1 | 2 | 9 |

One implication of the percentages reported above is that on average corporate contributions represent only a small fraction of candidates' campaign financing and therefore are unlikely to buy candidates' attention. However, if firms are making large contributions relative to other contributors, they are much more likely to be noticed even though these contributions represent only a small percentage of the total money raised. Table I analyzes the size and frequency of corporate contributions.

Panel A of Table I reports that the per-firm average contribution (across all candidates) totals $64,694 during any 2-year election cycle. This amount is spread over an average of 56 contributions. This total amount varies significantly between the minimum contribution total of only $29 to the maximum contribution total of $2.7 million. Democrats receive on average $30,758 from each firm, while Republicans receive $43,126. Thus, corporate contributions are much larger than individual contributions and hence are much more likely to be noticed by the receiving candidates.

In Panel B, a typical firm supports 31 candidates per election cycle, 16 Democrats and 20 Republicans. This number varies substantially from one

supported candidate per election cycle to 564 supported candidates per election cycle. We find no evidence that firms that support fewer candidates give less money per candidate. For example, firms that support only a single candidate give on average (standard deviation) $1,837 ($2,131), while firms that support 10, 20, and 30 candidates give on average $1,703 ($2,148), $1,747 ($1,963), and $1,540 ($1,870) per candidate, respectively. It appears, therefore, that the total amount of giving per firm is determined by the number of candidates that the firm chooses to support, not by the amount that each candidate receives, which appears to be fairly constant across candidates. The results in Table I also indicate that on average firms are not constrained by the FEC contribution limits. Firms contribute just over $2,000 per candidate per election cycle ($64,694/31 candidates = $2,086.90), well under the $10,000 contribution limit imposed by the FEC. Similar evidence is reported in Ansolabehere et al. (2003).[9]

### *B. Contribution Indexes*

We use the FEC data to create measures that describe firms' relationships with political candidates. We construct our initial measure based upon implications of the above results that not all firms participate in the contribution process, the average contribution per candidate is roughly constant regardless of how many candidates a firm supports, the participating firms are very large, and the FEC contribution limits are on average not binding. In particular, these findings are consistent with the idea that to establish a meaningful link with a politician, more may be required than simply donating $10,000 in hard money contributions to a candidate. Rather, soft money–like contributions, or other forms of nonmoney favors that are not publicly disclosed and that only larger firms can afford,[10] may be required. One way to summarize such firm contribution practices is to keep track of the total number of candidates that a firm supports. As long as hard money contributions are correlated with other ways in which firms establish relationships with politicians (see Milyo, Primo, and Groseclose (2000) and Bombardini and Trebbi (2008)), the number of politicians that a firm supports with hard money contributions should be a good

[9] It is unlikely that firms contribute below contribution limits because they receive little money from individuals allowed to contribute to their PACs. Ansolabehere et al. (2003) report that corporate PACs can double the amount they contribute to political candidates by legally shifting their overhead expenses to the sponsoring firms. Instead, corporate PACs choose to pay for overhead and other administrative expenses from the funds raised from corporate officers and employees.

[10] Anecdotal examples of firms helping politicians include: The *New York Times* reports that large insurance companies in New York State skirted around legal contribution limits to candidates by routing contributions through dozens of obscure subsidiaries (McIntire, Mike, 2006, "Campaign Gifts from Big Insurer Elude the Limit," *New York Times*, September 19, 2006); *The Salt Lake Tribune* reports that President Bush took 14 free rides on Enron corporate jets during the 2000 Presidential campaign (Ivins, Molly, 2006, "Corporate Fraud and Government Complicity," *The Salt Lake Tribune*, May 31, 2006); *The Salt Lake Tribune* reports that FedEx, U.S. Tobacco, Union Pacific, the Texas plaintiff's law firm of Baron & Budd, Burlington Northern Santa Fe, R.J. Reynolds, and Barr Laboratories are among those companies that most frequently fly members of Congress around the country on their company jets, upon request of the politician (Drinkard, Jim, 2006, "Private Jet Perks for Lawmakers Debated," *The Salt Lake Tribune*, March 9, 2006).

proxy for the degree of firm involvement in the political process. Thus, our initial measure is simply the sum of supported candidates (House, Senate, and Presidential) over a rolling multiyear window.

Specifically, at the end of October of each year, we compute the total number of supported candidates over the previous 5 years for each firm in our sample. A 5-year window seems to be a reasonable length of time to capture potential candidate-firm relationships, as Snyder (1992), for example, discusses the desire of firm PACs to establish long-term relationships with politicians. We use an October cutoff to match the timing of political contributions to the timing of elections, which take place on the Tuesday following the first Monday in November every even year. The "political index" (PI) for the number of supported candidates for firm $i$ in year $t$ is

$$PI_{it}^{candidates} = \sum_{j=1}^{J} Cand_{jt,t-5}, \tag{1}$$

where $Cand_{jt,t-5}$ is an indicator variable equal to one if the firm has contributed money to candidate $j$ over the years $t-5$ to $t$. The FEC contribution data are from January 1979 to December 2004. Since we require 5 years of data to compute equation (1), the index for the number of supported candidates is computed once a year, from October 1984 to October 2004.

For robustness, we test three variations of our basic measure of the number of supported candidates. These robustness measures are designed to scale equation (1) by other important contribution dimensions related to the strength of the relationship between a candidate and the contributing firm, the ability of a candidate to help the firm, and the power of a candidate. Numerous papers from the political science literature suggest that these dimensions are important to the firm-candidate relationship.

Concerning the strength of the relationship, Kroszner and Stratmann (1998) show that to maximize contributions, legislators tend to build relationships with PACs over time by participating on specialized committees and catering to PACs' interests. Snyder (1992) presents evidence that long-term PAC-candidate relationships are valuable for many PACs. Stratmann (1998) documents that highly reputable politicians are more likely to receive contributions prior to critical votes, while less reputable politicians are more likely to receive contributions after critical votes. Thus, politicians that have strong relationships with special interest groups (and therefore are considered more trustworthy) are valued and rewarded differently by special interest groups from other politicians. Regarding the ability of the politician to help the contributing firm, Kroszner and Stratmann (1998) suggest that politicians may cater to their constituents and exert greater bureaucratic effort on initiatives that benefit the local constituency. Consistent with this argument, Roberts (1990) finds a significant negative stock price reaction at the announcement of Senator Jackson's death for firms operating in his district. In addition, Faccio and Parsley (2009) find important economic effects for firms linked to local politicians.

These findings suggest that firms adjust their contributions to politicians as the expected ability of these politicians to help the firm changes. Finally, with respect to the power of the candidate, Grier and Munger (1991), Romer and Snyder (1994), and Ansolabehere and Snyder (1999) document that elected officials who are committee chairs or who serve on powerful committees raise substantially more money than other members.

Using the aforementioned papers as a guide, we construct the three political indexes designed to capture strength, ability, and power features of the firm-candidate relationship as follows. To measure the strength of the relationships between candidates and the contributing firm, we first assign each candidate supported by a firm and currently in office as of October of year $t$ an indicator variable of one. We then multiply the indicator variable by the number of months that the firm has maintained an uninterrupted relationship with the candidate, where uninterrupted relationships are taken to be those relationships in which the firm did not miss any of the candidate's past reelection cycles. Next, we scale that number by the ratio of total House or Senate votes the candidate's party has relative to the total votes of the opposing party (for either the House or the Senate) with the idea that the firm-candidate relationship grows stronger (weaker) for candidates belonging to the controlling (opposing) party. The PI strength measure for firm $i$ in year $t$ is thus

$$PI_{it}^{strength} = \sum_{j=1}^{J} Cand_{jt,t-5} \times I_{jt} \times \frac{NCV_{jt}}{NOV_{jt}} \times rellength_{jt,t-5}, \tag{2}$$

where $Cand_{jt,t-5}$ is an indicator variable equal to one if the firm has contributed money to candidate $j$ over the years $t-5$ to $t$, $I_{jt}$ is an indicator variable equal to one if candidate $j$ is in office at time $t$ and zero otherwise, $NCV_{jt}$ is the number of votes that candidate $j$'s party holds in office at time $t$, $NOV_{jt}$ is the number of votes that candidate $j$'s opposing party holds in office at time $t$, and $rellength_{jt}$ is the number of months that firm $i$ has maintained an uninterrupted relationship with candidate $j$ until time $t$. The ratio $\frac{NCV_{jt}}{NOV_{jt}}$ captures the candidate's party strength relative to the opposition party.

To capture the ability of the candidates to help a firm, we only include candidates that hold office in the same state in which the firm is headquartered. We obtain firm headquarters data from Compustat. The PI ability measure for firm $i$ in year $t$ is given by

$$PI_{it}^{ability} = \sum_{j=1}^{J} HomeCandidate_{jt,t-5} \times I_{jt} \times \frac{NCV_{jt}}{NOV_{jt}}, \tag{3}$$

where $HomeCandidate_{jt,t-5}$ is an indicator variable equal to one if candidate $j$ is running for office from the state in which firm $i$ is headquartered and zero otherwise, and the rest of the variables are as defined above.

Finally, to measure the power of the candidates, we weight the candidate by the sum of the candidate's committee rankings. The PI power measure for firm $i$ in year $t$ is

$$PI_{it}^{power} = \sum_{j=1}^{J} Cand_{jt,t-5} \times I_{jt} \times \frac{NCV_{jt}}{NOV_{jt}} \times \left[ \sum_{m=1}^{M} \frac{Committee\ rank_{mt}}{Median\ committee\ rank_{mt}} \right]_j, \quad (4)$$

where $Committee\ rank_{mt}$ is the reciprocal of candidate $j$'s rank on committee $m$ (where rank = 1 for the most important member, rank = 2 for the next-important member and so on), $Median\ committee\ rank_{mt}$ is the median number of members on a given committee $m$ of which candidate $j$ is a member, and the rest of the variables are as defined above.

Table II reports summary statistics on the four political indexes. Our sample of all firms with established PACs captures 71.08% of the total dollar volume of all corporate contributions reported by the FEC. We find that on average contributing firms support 72.5 candidates (standard deviation 95.9) over any given 5-year period.[11] Of these 72 candidates, 53.2 win their race. The median number of supported candidates is 31. The minimum number of supported candidates is one (460 firms in our sample support a single candidate over some 5-year window) and the maximum is 818 (AT&T Corp in 1984). The average (standard deviation) of the strength index, equation (2), is 1,691 (3,394.4) candidate-months; for the ability index, equation (3), it is 6.9 (7.3) home candidates; and for the power index, equation (4), it is 256.2 (337.4) candidate committee rank units. We merge the firms' political indexes (and other data from the FEC) with data from CRSP and Compustat to create a merged database from November 1984 to October 2005. We manually match firm names from CRSP with the names of sponsoring corporations reported by the FEC. In cases involving firm name changes, we examine corporate SEC filings to find the appropriate matching name. In cases involving wholly owned subsidiaries of other firms, we identify the ultimate parent firm from the SEC filings. We require that firms have nonmissing values of the independent variables used in our panel regressions (for example, nonmissing BM and capitalization in year $t$). To mitigate backfilling biases, a firm must be listed on Compustat for 2 years before it is included in the data set (Fama and French (1993)). These requirements further reduce our sample from 819,815 contributions made by 1,930 unique firms to 732,300 contributions made by 1,261 unique firms. Using equations (1) through (4) to compute the four political indexes, we obtain 10,727 firm-year observations for each of the four political indexes. The indexes are computed for 499 firms at the beginning of the sample period and 587 firms at the end of the sample period. We merge the end-of-October contribution measures with firm monthly returns from November of year $t$ to October of year $t + 1$. Later in the article, in our regressions tests we compound the monthly returns into annual returns and in our portfolio tests we use monthly returns. As control variables in many of our tests, we use market value scaled accounting ratios, such as BM and firm capitalization (SIZE). To construct the ratios, we

[11] We also calculate the standard deviation of the time series of each firm's number of supported candidates: The standard deviation of the average (median) number of supported candidates is 22.26 (11.63).

**Table II**

**Political Indexes Descriptive Statistics, 10/1984 to 10/2004**

This table presents data from the FEC detailed files on political contributions to House, Senate, and Presidential elections. We exclude all noncorporate contributions, contributions from private firms and subsidiaries of foreign firms, as well as contributions from firms for which there are insufficient data on CRSP/Compustat. Individual contributions are combined into four different political indexes (PIs), computed as in equations (1) to (4) in the text. Panel A presents the descriptive statistics for each political index. Panel B presents correlation coefficients across four political indexes. $PI_{it}^{candidates}$ is the number of supported candidates, $PI_{it}^{strength}$ is the strength of the relationships between candidates and the contributing firm, $PI_{it}^{ability}$ is the ability of the candidates to help the firm, and $PI_{it}^{power}$ is the power of the candidates. The FEC data are from January of 1979 to December of 2004. Since we require 5 years of data to compute each PI, the indexes are computed at the end of October of each year, from 1984 to 2004, resulting in 10,727 firm-year observations for each of the four political indexes computed for 1,261 unique firms. The descriptive statistics and the correlations are computed using full-sample pooled data. The *p*-values in Panel B test the null hypothesis that the correlations are equal to zero.

Panel A: Descriptive Statistics

| Political Index | Units | Mean | St. Dev. | Min | 25th Per | Median | 75th Per | Maximum |
|---|---|---|---|---|---|---|---|---|
| $PI^{candidates}$ | Candidates | 72.5 | 95.9 | 1 | 10 | 31 | 98 | 818 |
| $PI^{strength}$ | Candidate-months | 1,691.0 | 3,394.4 | 0 | 64.6 | 373.7 | 1,614.1 | 49,816.6 |
| $PI^{ability}$ | Home candidates | 6.9 | 7.3 | 0 | 1.5 | 4.9 | 9.7 | 60.2 |
| $PI^{power}$ | Candidate-committee rank | 256.2 | 337.4 | 0 | 33.1 | 111.0 | 351.8 | 2,619.9 |

Panel B: Correlations

| | $PI^{candidates}$ | $PI^{strength}$ | $PI^{ability}$ | $PI^{power}$ |
|---|---|---|---|---|
| $PI^{candidates}$ | 1 | | | |
| $PI^{strength}$ | 0.871 (<0.001) | 1 | | |
| $PI^{ability}$ | 0.539 (<0.001) | 0.470 (<0.001) | 1 | |
| $PI^{power}$ | 0.968 (<0.001) | 0.890 (<0.001) | 0.544 (<0.001) | 1 |

use accounting information from fiscal year-end $t-1$ from Compustat and capitalization from December of year $t-1$. When our tests include lagged return measures (for example, 12-month lagged returns), we estimate an annually updated buy-and-hold return from October $t-1$ to September $t$, skipping the return in October of year $t$ (to avoid microstructure-related biases). The variable SIZE is calculated using the price and the number of shares outstanding from October of year $t$.

In Table III we report formation period (that is, for the year prior to and including October of year $t$) summary statistics for various firm characteristics

**Table III**

## Characteristics of Contributing and Noncontributing Firms, 01/1984 to 12/2004

This table presents formation period summary statistics for various firm characteristics of contributing and noncontributing firms. Capitalization (SIZE), in millions of $, is calculated using the price and the number of shares outstanding from the end of October of year $t$. BHRET36 is the 36-month buy-and-hold return over October $t-3$ to September $t$. BHRET12 is the 12-month buy-and-hold return computed from October $t-1$ to September $t$. All accounting variables (total assets (ASSETS), in millions of $, number of employees (EMP), in millions, book-to-market ratio (BM), Leverage, return on equity (ROE), cash flow (CF), and profitability (PROFIT)) are calculated using Compustat data in the fiscal year ending in calendar year $t-1$. Number of supported candidates is the average number of supported candidates per firm over a 5 year rolling window (see equation (1) in the text) computed annually at the end of October of year $t$. Number of firms is the average number of firms per year for the noncontributors and contributors. The numbers in each cell are time series averages of yearly cross-sectional medians, with the exception of average capitalization (SIZE-AVG), in millions of $, which is the time-series average of yearly cross-sectional mean capitalization. Panel A reports characteristics of noncontributing and contributing firms. Panel B reports characteristics of the contributing firms based on annual decile sorts of the number of supported candidates (equation (1)) measure. Panel C reports characteristics of noncontributing firms (top number) and contributing firms (middle number) as well as the $t$-test for the difference between noncontributing and contributing firms (bottom number) based on NYSE annually ranked size decile breakpoints. The contributing firm sample has 10,727 firm-year observations. Noncontributing firms are all other firms in the CRSP/Compustat merged database with nonmissing values of the firm characteristics used in this table. All numbers, with the exception of ASSETS, SIZE, and SIZE-AVG, are in decimal form, that is 0.01 is 1%. Details on the construction of these variables are provided in Appendix A.

| Portfolio | BHRET36 | BHRET12 | ASSETS | SIZE | SIZE-AVG | BM | Leverage | CF | EMP | PROFIT | ROE | Number of Supported Candidates | Number Firms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel A: Comparison of Noncontributing and Contributing Firms | | | | | | | | | | | | | |
| Noncontributors | 0.365 | 0.116 | 285 | 195 | 1,143 | 0.618 | 0.143 | 0.068 | 1.1 | 0.127 | 0.107 | N/A | 3,556 |
| All contributors | 0.236 | 0.115 | 2,592 | 1,583 | 6,318 | 0.697 | 0.256 | 0.062 | 10.1 | 0.141 | 0.124 | 46.6 | 511 |
| $t$-test (difference) | −6.16 | −0.04 | 9.13 | 8.74 | 5.10 | 2.02 | 21.57 | −3.29 | 31.67 | 3.17 | 4.91 | | |
| Panel B: Comparison of Contributing Firms Partitioned by the Number of Supported Candidates Index | | | | | | | | | | | | | |
| Low number of supported candidates | 0.275 | 0.107 | 690 | 401 | 1,107 | 0.713 | 0.267 | 0.063 | 3.1 | 0.145 | 0.113 | 2.9 | 51 |
| Decile 2 | 0.269 | 0.111 | 962 | 542 | 1,457 | 0.733 | 0.270 | 0.061 | 3.3 | 0.141 | 0.118 | 8.3 | 51 |
| Decile 3 | 0.225 | 0.115 | 1,134 | 729 | 1,418 | 0.795 | 0.275 | 0.058 | 3.8 | 0.142 | 0.120 | 15.4 | 51 |

(*continued*)

**Table III**—*Continued*

| Portfolio | BHRET36 | BHRET12 | ASSETS | SIZE | SIZE-AVG | BM | Leverage | CF | EMP | PROFIT | ROE | Number of Supported Candidates | Number Firms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel B: Comparison of Contributing Firms Partitioned by the Number of Supported Candidates Index | | | | | | | | | | | | | |
| Decile 4 | 0.211 | 0.127 | 1,380 | 799 | 1,705 | 0.811 | 0.276 | 0.056 | 5.3 | 0.135 | 0.118 | 24.6 | 52 |
| Decile 5 | 0.223 | 0.115 | 1,719 | 1,018 | 2,438 | 0.758 | 0.283 | 0.054 | 6.9 | 0.129 | 0.120 | 37.4 | 51 |
| Decile 6 | 0.273 | 0.089 | 2,568 | 1,675 | 3,543 | 0.689 | 0.248 | 0.064 | 11.0 | 0.145 | 0.125 | 56.8 | 51 |
| Decile 7 | 0.223 | 0.125 | 4,235 | 2,560 | 5,344 | 0.635 | 0.238 | 0.067 | 15.1 | 0.143 | 0.126 | 87.0 | 51 |
| Decile 8 | 0.258 | 0.115 | 6,089 | 3,543 | 7,151 | 0.646 | 0.250 | 0.066 | 20.6 | 0.144 | 0.130 | 130.0 | 51 |
| Decile 9 | 0.228 | 0.124 | 11,302 | 6,404 | 12,689 | 0.642 | 0.258 | 0.063 | 32.0 | 0.138 | 0.126 | 194.4 | 51 |
| High number of supported candidates | 0.244 | 0.113 | 18,670 | 12,437 | 28,799 | 0.592 | 0.211 | 0.067 | 65.6 | 0.151 | 0.154 | 318.1 | 51 |
| *t*-test (high – low) | −1.05 | 0.14 | 7.09 | 7.01 | 5.40 | −2.17 | −5.64 | 1.44 | 21.60 | 1.12 | 7.25 | 99.63 | |
| Panel C: Comparison of Noncontributing and Contributing Firms by Size Deciles | | | | | | | | | | | | | |
| Small noncont. | 0.250 | 0.082 | 84 | 40 | 48 | 0.827 | 0.130 | 0.058 | 0.3 | 0.101 | 0.083 | N/A | 1,240 |
| Cont. | 0.148 | 0.012 | 154 | 53 | 63 | 1.338 | 0.215 | 0.055 | 1.2 | 0.114 | 0.078 | 8.9 | 17 |
| *t*-test | (−2.85) | (−1.29) | (2.93) | (1.49) | (1.25) | (4.56) | (7.17) | (−1.28) | (7.29) | (1.79) | (−0.75) | | |
| Decile 2 | 0.366 | 0.090 | 166 | 135 | 146 | 0.617 | 0.116 | 0.063 | 0.8 | 0.123 | 0.097 | N/A | 634 |
| | 0.167 | 0.042 | 337 | 130 | 138 | 1.026 | 0.225 | 0.050 | 2.9 | 0.109 | 0.00 | 12.9 | 23 |
| | (−7.35) | (−0.83) | (4.17) | (−0.20) | (−0.27) | (7.29) | (7.01) | (−5.17) | (13.12) | (−2.27) | (−5.07) | | |
| Decile 3 | 0.401 | 0.118 | 289 | 247 | 261 | 0.586 | 0.140 | 0.068 | 1.4 | 0.135 | 0.107 | N/A | 430 |
| | 0.215 | 0.055 | 497 | 240 | 250 | 0.857 | 0.281 | 0.061 | 3.4 | 0.133 | 0.100 | 17.9 | 33 |
| | (−7.15) | (−1.27) | (2.90) | (−0.14) | (−0.25) | (6.47) | (14.17) | (−2.03) | (6.47) | (−0.47) | (−1.34) | | |
| Decile 4 | 0.448 | 0.140 | 431 | 385 | 403 | 0.552 | 0.150 | 0.074 | 1.9 | 0.145 | 0.116 | N/A | 325 |
| | 0.192 | 0.104 | 747 | 375 | 382 | 0.825 | 0.282 | 0.059 | 3.4 | 0.137 | 0.109 | 19.0 | 37 |
| | (−9.09) | (−0.74) | (3.21) | (−0.16) | (−0.32) | (7.44) | (16.44) | (−6.04) | (6.02) | (−1.43) | (−1.23) | | |

(*continued*)

**Table III**—*Continued*

| Portfolio | BHRET36 | BHRET12 | ASSETS | SIZE | SIZE-AVG | BM | Leverage | CF | EMP | PROFIT | ROE | Number of Supported Candidates | Number Firms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Decile 5 | 0.482 | 0.155 | 615 | 587 | 614 | 0.508 | 0.163 | 0.077 | 2.8 | 0.154 | 0.124 | N/A | 255 |
| | 0.216 | 0.113 | 1,049 | 572 | 586 | 0.784 | 0.270 | 0.057 | 4.4 | 0.132 | 0.117 | 18.1 | 48 |
| | (−9.69) | (−0.89) | (4.17) | (−0.17) | (−0.29) | (6.42) | (13.05) | (−6.46) | (3.28) | (−5.00) | (−1.65) | | |
| Decile 6 | 0.472 | 0.244 | 967 | 882 | 928 | 0.523 | 0.174 | 0.079 | 3.9 | 0.153 | 0.131 | N/A | 199 |
| | 0.228 | 0.155 | 1,540 | 895 | 916 | 0.752 | 0.278 | 0.060 | 6.5 | 0.139 | 0.117 | 23.7 | 56 |
| | (−7.53) | (−2.00) | (3.56) | (0.10) | (−0.09) | (4.88) | (12.96) | (−6.50) | (4.49) | (−2.98) | (−3.60) | | |
| Decile 7 | 0.483 | 0.164 | 1,431 | 1,367 | 1,429 | 0.493 | 0.177 | 0.081 | 5.1 | 0.160 | 0.136 | N/A | 163 |
| | 0.232 | 0.117 | 2,259 | 1,367 | 1,411 | 0.722 | 0.271 | 0.062 | 7.7 | 0.141 | 0.125 | 31.7 | 68 |
| | (−8.15) | (−0.76) | (3.34) | (0.00) | (−0.09) | (5.67) | (9.72) | (−7.08) | (5.77) | (−4.21) | (−2.42) | | |
| Decile 8 | 0.489 | 0.173 | 2,206 | 2,267 | 2,393 | 0.466 | 0.167 | 0.083 | 7.9 | 0.165 | 0.141 | N/A | 137 |
| | 0.224 | 0.120 | 3,802 | 2,296 | 2,365 | 0.686 | 0.268 | 0.066 | 12.9 | 0.145 | 0.127 | 54.2 | 75 |
| | (−7.88) | (−0.89) | (3.88) | (0.09) | (−0.08) | (5.29) | (13.43) | (−6.36) | (6.98) | (−4.42) | (−2.96) | | |
| Decile 9 | 0.465 | 0.183 | 3,997 | 4,417 | 4,728 | 0.434 | 0.162 | 0.081 | 13.4 | 0.166 | 0.149 | N/A | 103 |
| | 0.267 | 0.133 | 6,450 | 4,527 | 4,668 | 0.581 | 0.253 | 0.068 | 22.9 | 0.151 | 0.141 | 89.8 | 76 |
| | (−5.38) | (−1.01) | (2.92) | (0.15) | (−0.08) | (3.29) | (11.61) | (−4.79) | (5.28) | (−2.59) | (−1.89) | | |
| Big | 0.465 | 0.182 | 13,171 | 12,885 | 19,805 | 0.406 | 0.163 | 0.086 | 39.4 | 0.173 | 0.166 | N/A | 70 |
| | 0.324 | 0.171 | 14,778 | 16,287 | 27,479 | 0.387 | 0.185 | 0.084 | 53.5 | 0.190 | 0.175 | 183.5 | 78 |
| | (−2.80) | (−0.20) | (0.68) | (1.03) | (1.37) | (−0.38) | (3.30) | (−0.96) | (2.54) | (2.62) | (1.59) | | |

of contributing and noncontributing firms. We report the time-series average of yearly cross-sectional median values and the average of yearly cross-sectional averages for capitalization (SIZE). The noncontributing firms are all firms in CRSP/Compustat that meet the above sample formation screens but do not appear in the FEC database. Appendix A provides exact formulas for the nonpolitical index variables used in our tests. In Panel A, contributing firms are much larger than noncontributing firms; the time-series average of the yearly median capitalization of contributors is \$1.6B versus \$195M for the noncontributing firms (the time-series average of the yearly mean capitalization is \$6.3B for contributors and \$1.1B for noncontributors). In a typical year our sample includes 511 contributing firms, which constitute 7.2% of all publicly traded firms and represent 48% of the total market capitalization. We find that the average capitalization of contributing firms, computed relative to annually ranked NYSE breakpoints, places the contributing firms consistently in the top 12% of capitalization. Thus, firms participating in the political process are very large firms. On average, contributing firms have lower returns over the previous 36 months, higher book-to-market, lower cash flow, and higher leverage than do noncontributors. The last observation is consistent with Faccio et al. (2006), who find that government bailed-out politically connected firms have significantly higher leverage ratios than their nonconnected matching peers.

In Table III, Panel B, we report characteristics of the contributing firms based on annual decile sorts of the number of supported candidates measure (equation (1)). Some interesting patterns emerge. First, the firms that support more candidates are much larger than the firms that support fewer candidates; the average capitalization of the firms in the top decile of number of supported candidates is \$28.8B, decreasing almost monotonically to \$1.1B for the firms in decile one of supported candidates. The top decile contribution firms are more profitable (as measured by ROE) than the firms in the lowest decile. In Table III, Panel C, to better understand which types of firms participate in the political process, we examine the characteristics of firms with and without PACs within size-ranked deciles. We sort all firms by NYSE annually ranked size decile breakpoints and within each decile report the characteristics of contributing and noncontributing firms. We find that the percentage of firms making contributions increases dramatically as we move from the smallest to the largest decile of annually ranked NYSE breakpoint capitalization: The percentage of firms making contributions is 1.4% for the smallest decile, 15.8% for decile five, and 52.7% for the largest decile. In addition, contributors tend to have lower prior 36-month returns, higher BM and leverage, and lower cash flow and profitability compared to similar size noncontributors. The above patterns are consistent with a simple story: If there are in fact extra costs (above and beyond the nominal costs of hard money contributions) to participating effectively in the contribution process, then it appears that the high-contributing firms, with their much larger firm size, may be more able to incur these expenses than the low-contributing firms. In addition, because of their recent poor stock price and earnings performance, PAC firms, relative to their noncontributing

size-matched peers, may have a greater incentive to establish political connections that can help increase firm performance.

## II. Results

### A. Panel Regressions

We perform panel (cross-sectional time-series) regressions of annual abnormal stock returns on the lagged political contribution indexes and other firm characteristics. For a given year $t$, a firm's abnormal return is calculated as the difference in the stock's annual return (we geometrically compound the monthly returns to obtain annual returns) over November $t$ through October $t + 1$, minus the return to a characteristic-matched portfolio over the same period.[12] We seek to determine whether firms that support more candidates, have longer relationships with candidates, support more local candidates, and support more powerful candidates earn higher abnormal returns, controlling for variables that have been shown to be important predictors of the cross-section (book-to-market equity (BM), capitalization (SIZE), and 12-month lagged returns (BHRET12)—Fama and French (1992) and Jegadeesh and Titman (1993)). As we show in the previous tables, not all firms participate in the political contribution process. Obviously, firms choose whether to participate in the political contribution process. This choice introduces a possible self-selection bias into our observed sample. To control for potential selection bias, we use a two-stage approach and estimate a probit regression of whether a firm has a PAC on determinants of PAC participation. The probit regression is estimated annually. From this first-stage regression, which identifies the likelihood of a firm participating in the political contribution process, each year we calculate the inverse Mills ratio (IMR) from Heckman (1979) and include this ratio in our second-stage panel regressions. Including the ratio in our return regressions helps control for the likelihood of self-selecting into the contributing firm group. In the second-stage panel regressions, we take the natural log of all the right-hand-side variables except BHRET12 and the inverse Mills ratio. The contribution measures are standardized to have unit variance in order to facilitate comparisons across the indexes. To account for correlated residuals,

[12] We follow the methodology outlined in Daniel et al. (1997) to calculate benchmark-adjusted returns. We form 125 benchmark portfolios that capture the three stock characteristics of book-to-market, size, and momentum. We form the benchmark portfolios as follows. At the end of October of year $t$, the universe of NYSE, Amex, and NASDAQ common stocks are sorted into five portfolios based on each firm's capitalization in October of year $t$ using October NYSE quintile breakpoints. Firms in each size quintile portfolio are further sorted into quintiles based on their book-to-market ratios from the end of year $t-1$. Finally, the firms in each of the 25 size and book-to-market portfolios are further sorted into quintiles based on their prior 12-month holding period returns estimated through the end of September of year $t$. Thus we generate 125 benchmark portfolios. We calculate value-weighted monthly returns on each benchmark portfolio from November of year $t$ through October of year $t + 1$. The benchmark portfolios are rebalanced yearly, at the end of October. Each of the contributing firms is assigned to a benchmark portfolio according to its rank on size, book-to-market, and lagged 1-year return as of the end of October of year $t$.

following Petersen (2009) we report firm-clustered standard errors in all panel regressions in the paper.

The first-stage probit results are reported in Appendix B. For the determinants of a firm's participation in the political process, we use individual firm and industry characteristics that have been shown in previous studies to be related to the likelihood of a firm having a PAC (Masters and Keim (1985), Zardkoohi (1985), Grier, Munger, and Roberts (1994), and Hart (2001)). These variables include firm size, leverage, sales, number of employees, percentage of industry employees that are unionized, number of business segments, number of geographical segments, sales concentration, market share, a regulated industry dummy, amount of government purchases from an industry, and number of politically active firms in an industry. We find that many of these variables are important in predicting which firms participate in the political process, in a manner consistent with the above papers. The probit results show that larger firms with more sales, more employees, and a higher percentage of unionized employees have a statistically significantly greater likelihood of participation. Also, there is an increased likelihood of participation as the number of business segments, firm leverage, and market share increase and as the number of geographical segments and cash flow decrease. The likelihood of participation also increases for firms in regulated industries and for firms in industries that experience government purchases. Finally, as the number of politically active firms in an industry increases, the probability of a firm being politically active also increases.

The second-stage abnormal return panel regression results are reported in Table IV. The results show that the total number of supported candidates ($\ln(PI_{it}^{candidates})$) is related to the cross-section of future abnormal returns for firms participating in the political process. Specifically, firms that support a greater number of candidates earn higher future returns; the $t$-statistic on the coefficient of the total number of supported candidates is 5.11 in the bivariate regression (specification 1) and is 5.22 in the multiple regression (specification 5). As might be expected, since we use abnormal returns as the dependent variable, the coefficients on the control variables are for the most part statistically insignificant.[13]

The regressions in specifications 2 through 4 (bivariate models) and 6 through 8 (multiple regression models) examine the robustness of our basic total candidates measure to the other three political indexes. Because of their multiplicative construction, the other contribution indexes (equations (2) through (4)) are

[13] As shown in Table III, firm size is positively correlated with the number of supported candidates (the correlation is 34.9%), which may result in a multicollinearity-induced bias in the point estimates on size and the number of supported candidates in specification 5 of Table IV. We estimate a bivariate model with the inverse Mills ratio and the number of supported candidates measure and report the results in specification 1. We also estimate a univariate model with SIZE only and find a negative coefficient ($t$-statistic $= -3.79$). Finally, we estimate trivariate models with SIZE, the inverse Mills ratio, and each political index and find a consistently negative coefficient on size and a positive coefficient on the political indexes ($t$-statistics on the political indexes range from 3.45 for the ability index to 5.97 for the power of the candidate index), suggesting that multicollinearity is unlikely to be an issue in our sample.

**Table IV**

## Panel Return Regressions for Firms Participating in the Political Process, 11/1984 to 10/2005

This table presents regressions of annual abnormal returns, calculated from November of year $t$ to October of year $t+1$, on the natural logarithm of each lagged political index Ln(PI), control variables, and the inverse Mills ratio (IMR). $PI_{it}^{candidates}$ is the number of supported candidates, $PI_{it}^{strength}$ is the strength of the relationships between candidates and the contributing firm, $PI_{it}^{ability}$ is the ability of the candidates to help the firm, and $PI_{it}^{power}$ is the power of the candidates. The PIs are computed annually at the end of October of each year $t$. The control variables are the natural logarithm of book-to-market (Ln(BM)), the natural logarithm of the firm's market value of equity (Ln(SIZE)), and 12-month buy-and-hold returns (BHRET12). The IMR is estimated as of October of each year $t$ using the Probit model in Appendix B. BHRET12 is computed from October $t-1$ to September $t$. Ln(SIZE) is calculated using the price and the number of shares outstanding from the end of October of year $t$. Ln(BM) is calculated using Compustat data in the fiscal year ending in calendar year $t-1$ and capitalization from December of year $t-1$. The regression sample includes 10,727 firm-year political index observations. Abnormal returns are computed as the difference between a firm's raw annual return and the value-weighted annual return for a book-to-market, size, and momentum matched portfolio of firms. The $t$-statistics are clustered by firm and reported in parentheses. Details on the construction of these variables are provided in Appendix A.

| Specification | Intercept | Ln(BM) | Ln(SIZE) | BHRET12 | IMR | Ln($PI^{candidates}$) | Ln($PI^{strength}$) | Ln($PI^{ability}$) | Ln ($PI^{power}$) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | −0.0431 | | | | 0.0583 | 0.0242 | | | |
| | (−4.36) | | | | (4.75) | (5.11) | | | |
| 2 | −0.0410 | | | | 0.0560 | | 0.0224 | | |
| | (−4.08) | | | | (4.53) | | (4.44) | | |
| 3 | −0.0310 | | | | 0.0447 | | | 0.0137 | |
| | (−3.54) | | | | (4.14) | | | (3.27) | |
| 4 | −0.0430 | | | | 0.0582 | | | | 0.0254 |
| | (−4.49) | | | | (4.86) | | | | (5.63) |
| 5 | 0.0150 | 0.0044 | −0.0059 | −0.0133 | 0.0454 | 0.0261 | | | |
| | (0.38) | (0.74) | (−1.38) | (−1.19) | (2.99) | (5.22) | | | |
| 6 | 0.0071 | 0.0048 | −0.0048 | −0.0142 | 0.0453 | | 0.0241 | | |
| | (0.18) | (0.81) | (−1.13) | (−1.27) | (2.95) | | (4.60) | | |
| 7 | −0.0172 | 0.0088 | −0.0008 | −0.0158 | 0.0419 | | | 0.0149 | |
| | (−0.44) | (1.48) | (−0.18) | (−1.41) | (2.75) | | | (3.45) | |
| 8 | 0.0274 | 0.0036 | −0.0074 | −0.0132 | 0.0428 | | | | 0.0281 |
| | (0.70) | (0.61) | (−1.69) | (−1.18) | (2.87) | | | | (5.80) |

highly correlated with the total candidates measure (correlations range from 0.51 to 0.97). Thus, we estimate annual return regressions using each political index in a separate regression to rule out bias in the index coefficients from the high degree of correlation across the indexes. The coefficients on the three alternative measures, strength of the relationship (specification 6), ability of the candidate (specification 7), and power of the candidate (specification 8), all obtain statistically significant positive *t*-statistics (4.60, 3.45, and 5.80, respectively).

The coefficient on the number of supported candidates provides us with a sense of the economic effects of contributions. A one-standard deviation increase in the number of supported candidates is associated with about a 2.61% per-year higher abnormal return.[14] We find similar results with the other contribution measures; a one-standard deviation increase for the strength, ability, and power measures is associated with annual average abnormal returns ranging from 1.5% to 2.8%.

### *A.1. Party, Chamber, and Party-Control Effects*

Next, we split our sample along political party lines and along House and Senate chambers. The FEC data show that Republican candidates typically receive higher total dollar contributions than do Democrats, and that Republican candidates' contributions come from a larger number of supporting firms than do Democrat candidates' contributions, so one might hypothesize that the contribution effect should be greater for firms contributing to Republican candidates.[15] In addition, there are constitutional provisions that state that all revenue-raising legislation and appropriations bills must originate in the House. Thus, firms may find that it is more expedient to support House members, where potential firm value–increasing actions may be more readily created. For the Democrat/Republican split, we recompute each political index by multiplying candidate variables by a party indicator variable: For each Democrat (Republican) candidate, the party indicator variable equals one if the candidate is affiliated with the Democratic (Republican) Party and zero otherwise. For the House/Senate split, we recomputed each political index by multiplying candidate variables by a chamber indicator variable: For each candidate in the House (Senate), the chamber indicator variable equals one if the candidate is affiliated with the House (Senate) and zero otherwise.

There is a high degree of correlation across the indexes when we split on party or chamber, since many firms support candidates in both parties and houses. For example, most firms contribute to both Republican and Democrat candidates—only 29 (104) firms in the sample contribute only to Democrats (Republicans). As a result of firms supporting both types of candidates, the

[14] We do not take a stand concerning whether this "abnormal" return reflects a risk premium for contributing firms or whether it reflects investor mispricing.

[15] We find that the average firm supports 39% Democrat candidates and 61% Republican candidates over any 5-year period.

correlations among equations (1) through (4) scaled by the Republican and Democrat dummies range from 0.42 to 0.79. Thus, there may be multicollinearity problems in interpreting the coefficients from models that include indexes of both parties or chambers in the same model. To address this issue, we estimate two-stage regressions. In the first stage we regress each respective Democrat index (equations (1) through (4)) on the respective Republican index and create a Democrat residual series using the errors from the regression. In the second stage, we regress annual firm abnormal returns against the Republican index and the residual Democrat index. The results from the second stage are reported in Panel A.1 of Table V. As a robustness check, we reverse the orthogonalization procedure and compute the Democrat and the residual Republican index. The results from annual regressions of firm abnormal returns against the Democrat and the residual Republican indexes are reported in Panel A.2. Finally, we do the same orthogonalization procedure for the House/Senate indexes. The results are reported in Panel B.1 for the Senate and the residual House indexes and in Panel B.2 for the House and the residual Senate indexes.

The results for the Democrat/Republican regressions indicate that there is an incremental Democrat effect beyond the Republican effect (Panel A.1) and little incremental Republican effect beyond the Democrat effect (Panel A.2). In Panel A.1, the residual Democrat index coefficients are always statistically significant (the $t$-statistic ranges from 3.57 for the ability index to 5.05 for the number of supported candidates index) even after controlling for Republican effects. The converse is not true in Panel A.2. The residual Republican index coefficients are not statistically significant after controlling for Democrat effects.

Similarly, the results for the House/Senate regressions indicate that there is an incremental House effect beyond the Senate effect (Panel B.1) but no Senate effect beyond the House effect (Panel B.2). The residual House index coefficient is always statistically significant in Panel B.1 ($t$-statistics range from 3.11 for the ability index to 3.93 for the power index) but the residual Senate index coefficients are always insignificant in Panel B.2. Thus, even though contributions to both parties and both chambers are associated with higher returns, contributions to Democrats and House candidates provide information for stock returns above and beyond that provided in contributions to Republicans and Senate candidates.

We examine if there is a party control effect. For example, Jayachandran (2006) documents a significant increase (decline) in the market value of firms contributing to Democrats (Republicans) at the announcement that Senator Jim Jeffords decided to leave the Republican Party in 2001, a decision that transferred control of the Senate from Republicans to Democrats. We note that firms do appear to support a greater number of candidates as a function of which party controls either the House or the Senate. For example, summed across chambers and parties, we find that the per-firm average number of supported candidates for the party in control is 95 and the number of not-in-control candidates is 86. The differences are even greater for the other political indexes: 2,892 (1,639) for the strength index for in-control (not-in-control) candidates; 10 (5.5) for the ability index for in-control (not-in-control) candidates; and 433

**Table V**

## Panel Return Regressions for Democrat/Republican and House/Senate Political Indexes, 11/1984 to 10/2005

This table presents regressions of annual abnormal returns, calculated from November of year $t$ to October of year $t+1$, on the natural logarithm of each lagged political index Ln(PI), control variables, and the inverse Mills ratio (IMR). $PI_{it}^{candidates}$ is the number of supported candidates, $PI_{it}^{strength}$ is the strength of the relationships between candidates and the contributing firm, $PI_{it}^{ability}$ is the ability of the candidates to help the firm, and $PI_{it}^{power}$ is the power of the candidates. The political indexes (PIs) are combined into four separate Democrat (Republican) PIs by modifying equations (1) to (4) with an indicator variable equal to one if the candidate is affiliated with the Democratic (Republican) Party and zero otherwise. Similarly, contributions are combined into separate House (Senate) PIs by modifying equations (1) to (4) with an indicator variable equal to one if the candidate is affiliated with the House (Senate) and zero otherwise. The PIs are computed annually at the end of October of each year $t$. The control variables are the natural logarithm of book-to-market (Ln(BM)), the natural logarithm of the firm's market value of equity (Ln(SIZE)), and 12-month buy-and-hold returns (BHRET12). The inverse Mills ratio (IMR) is estimated as of October of each year $t$ using the Probit model in Appendix B. BHRET12 is computed from October $t-1$ to September $t$. Ln(SIZE) is calculated using the price and the number of shares outstanding from the end of October of year $t$. Ln(BM) is calculated using Compustat data in the fiscal year ending in calendar year $t-1$ and capitalization from December of year $t-1$. The regression sample includes 10,727 firm-year political index observations. Abnormal returns are computed as the difference between a firm's raw annual return and the value-weighted annual return for a book-to-market, size, and momentum matched portfolio of firms. Panel A1 (A2) reports the results for Republican and residual Democrat (Democrat and residual Republican) PIs. Panel B1 (B2) reports the results for House and residual Senate (Senate and residual House) PIs. The residual PI is obtained from regressing each PI in equation (1) to (4) on its counterpart PI. Only coefficients on PIs are reported. The $t$-statistics are clustered by firm and are reported in parentheses. Details on the construction of these variables are provided in Appendix A.

Panel A1: Republican and Residual Democrat PI Regressions

| Specification | $\text{Ln}(PI_{Demres}^{cand})$ | $\text{Ln}(PI_{Rep}^{cand})$ | $\text{Ln}(PI_{Demres}^{strength})$ | $\text{Ln}(PI_{Rep}^{strength})$ | $\text{Ln}(PI_{Demres}^{ability})$ | $\text{Ln}(PI_{Rep}^{ability})$ | $\text{Ln}(PI_{Demres}^{power})$ | $\text{Ln}(PI_{Rep}^{power})$ |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.0203 | 0.0231 | | | | | | |
| | (5.05) | (4.74) | | | | | | |
| 2 | | | 0.0192 | 0.0190 | | | | |
| | | | (4.97) | (3.65) | | | | |
| 3 | | | | | 0.0133 | 0.0078 | | |
| | | | | | (3.57) | (1.92) | | |
| 4 | | | | | | | 0.0201 | 0.0181 |
| | | | | | | | (4.66) | (3.81) |

(*continued*)

**Table V**—*Continued*

Panel A2: Democrat and Residual Republican PI Regressions

| Specification | $\text{Ln}(PI^{cand}_{Dem})$ | $\text{Ln}(PI^{cand}_{\text{Repres}})$ | $\text{Ln}(PI^{strength}_{Dem})$ | $\text{Ln}(PI^{strength}_{\text{Repres}})$ | $\text{Ln}(PI^{ability}_{Dem})$ | $\text{Ln}(PI^{ability}_{\text{Repres}})$ | $\text{Ln}\,((PI^{power}_{Dem})$ | $\text{Ln}\,((PI^{power}_{\text{Repres}})$ |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.0315 | −0.0028 | | | | | | |
| | (6.13) | (−0.75) | | | | | | |
| 2 | | | 0.0290 | −0.0035 | | | | |
| | | | (5.66) | (−0.90) | | | | |
| 3 | | | | | 0.0186 | 0.0012 | | |
| | | | | | (4.51) | (0.34) | | |
| 4 | | | | | | | 0.0319 | −0.0029 |
| | | | | | | | (6.73) | (−0.69) |

Panel B1: Senate and Residual House PI Regressions

| Specification | $\text{Ln}(PI^{cand}_{Houseres})$ | $\text{Ln}(PI^{cand}_{Senate})$ | $\text{Ln}(PI^{strength}_{Houseres})$ | $\text{Ln}(PI^{strength}_{Senate})$ | $\text{Ln}(PI^{ability}_{Houseres})$ | $\text{Ln}(PI^{ability}_{Senate})$ | $\text{Ln}\,((PI^{power}_{Houseres})$ | $\text{Ln}\,((PI^{power}_{Senate})$ |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.0146 | 0.0254 | | | | | | |
| | (3.44) | (5.14) | | | | | | |
| 2 | | | 0.0147 | 0.0190 | | | | |
| | | | (3.50) | (3.75) | | | | |
| 3 | | | | | 0.0124 | 0.0083 | | |
| | | | | | (3.11) | (2.13) | | |
| 4 | | | | | | | 0.0172 | 0.0224 |
| | | | | | | | (3.93) | (4.51) |

Panel B2: House and Residual Senate PI Regressions

| Specification | $\text{Ln}(PI^{cand}_{House})$ | $\text{Ln}(PI^{cand}_{Senres})$ | $\text{Ln}(PI^{strength}_{House})$ | $\text{Ln}(PI^{strength}_{Senres})$ | $\text{Ln}(PI^{ability}_{House})$ | $\text{Ln}(PI^{ability}_{Senres})$ | $\text{Ln}\,((PI^{power}_{House})$ | $\text{Ln}\,((PI^{power}_{Senres})$ |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.0276 | −0.0033 | | | | | | |
| | (5.44) | (−0.83) | | | | | | |
| 2 | | | 0.0258 | −0.0027 | | | | |
| | | | (4.86) | (−0.71) | | | | |
| 3 | | | | | 0.0158 | 0.0009 | | |
| | | | | | (3.68) | (0.24) | | |
| 4 | | | | | | | 0.0305 | −0.0020 |
| | | | | | | | (6.29) | (−0.45) |

(206) for the power index for in-control (not-in-control) candidates (the differences are all highly statistically significant). We examine if these differences in levels of support are reflected in returns. We recompute each political index by multiplying candidate variables by a control indicator variable. For each candidate, the control indicator variable equals one if the candidate belongs to the party in control of either chamber and zero otherwise. To control for high correlation between the control and not-in-control indexes (most firms support both types of candidates), we orthogonalize the control index with respect to the not-in-control index and regress annual firm returns against the noncontrol index and the residual control index. The results of the second-stage regression do not suggest a control effect in returns; the coefficients on the control residual and noncontrol indexes in abnormal return regressions are both positive but the differences are not statistically significant.

The previous control tests may lack power because firms tend to support both types of candidates and there were periods over which party control varied across chambers (which may have meant that being in "control" had less of an effect on getting legislation passed than in periods in which the same party controlled both chambers). A convenient "natural experiment" to test for party control is to examine contribution effects after the 1994 elections in which Republicans strongly won control of both the House and Senate. We reestimate the panel regressions in the post-1994 period for the Republican and Democrat residual indexes. The results indicate no real differences across the party indexes. For example, the $t$-statistic for the coefficient on the Democratic (Republican) strength of the relationship index is 3.19 (2.65) during the post-1994 period. Thus, there is no clear evidence that only Republican-leaning firms earned higher abnormal returns during the post-1994 Republican-controlled era.[16] Our result of no consistent differences in contribution effects between Republican- and Democratic-leaning firms across periods of Democratic and Republican control is consistent with the Grossman and Helpman (1994) argument that firms lobby incumbent politicians who already hold public office irrespective of those politicians' election platforms. The Grossman and Helpman model builds on the Stigler (1971) theory of economic regulation that views political contributions not as a means to affect the election outcome per se, but as a means to purchase political support from the candidate already in office.

### *A.2. Robustness Tests*

We perform a number of robustness tests. We replace characteristic-based benchmark-adjusted abnormal returns with excess returns (in excess of the T-bill rate) in the previously reported regressions. Using excess returns as the dependent variable instead of benchmark-adjusted returns produces qualitatively similar results. We examine variations to the October rebalancing

[16] We also estimate regressions in which we interact candidate party and chamber affiliation with the control/noncontrol indexes. These regressions do not suggest a control/noncontrol effect in returns.

convention; we recompute the political indexes at the end of December of year $t$, and line up the index values with annual returns from January of year $t + 1$ to December of year $t + 1$. Our results are robust to variations in the rebalancing convention; $t$-statistics on the coefficients from the four contribution indexes range from 3.20 for the ability index up to 4.83 for the power of the candidate index. We examine variations to the lagged returns variable used in our regressions: We replace annually updated lagged 12-month returns with 6- or 36-month annually updated returns and find that the significance of the PI coefficients remains. We also include year fixed effects in all of our regression tests (Tables IV, V, and VII). The results from these models are qualitatively similar to models without fixed effects; the $t$-statistics on the coefficients of the political index variables from the fixed effects models remain strongly statistically significant.

To explore whether our documented hard money–based contribution effects are driven by noncandidate-specific soft money contributions, we estimate regressions of the four political indexes from 2003 to 2005, a period over which soft money contributions from corporations were banned. If soft money contributions are a significant source of the contributions effect, we would expect to see less of an effect after 2002. We find that the coefficients on the four indexes are actually larger in the post-2002 period than in the previous periods (but as expected, due to the short time series, are less statistically significant), consistent with the observations that (i) the contribution effect in stock returns prior to 2002 was not due solely to noncandidate-specific soft money contributions, and (ii) the contribution effect remains strong in the most recent years of our sample.

In additional tests we control for charitable giving. High amounts of charitable giving may signal that a firm's managers have private information concerning positive future performance (Margolis, Elfenbain, and Walsh (2007) and Navarro (1988)). However, large charitable contributions may also signal an agency problem in which a manager is simply engaged in wasteful spending (Jensen and Meckling (1976) and Wang and Coffey (1992)). The first (second) hypothesis suggests that charitable giving may be positively (negatively) correlated with future returns. Either way, if charitable giving is correlated with political contributions and future firm performance, then it may bias our results, so it is important to control for it in our tests. We obtain data from KLD Research and Analytics, Inc. on firm charitable giving. The KLD data are from 1991 to 2005, and provide coverage on S&P 500 firms from 1991 to 2000 and expand after 2001 to include Russell 1000 firms. We use an indicator variable for generous giving that equals one if a firm has consistently given over 1.5% of trailing 3-year net earnings before taxes to charity and zero otherwise. KLD updates the data annually at the end of the calendar year. We merge the charitable giving variable from year-end $t - 1$ with firm annual returns from November of year $t$ to October of year $t + 1$. We reestimate the panel regressions in Table IV using lagged charity, the political contribution index, the inverse Mills ratio, and the other control variables (book-to-market equity (BM), capitalization (SIZE), 12-month lagged returns (BHRET12)) as

explanatory variables. Despite the fact that we now have a shorter sample (starting in 1991) and a reduced number of firms, we find that charity does not subsume the political indexes: The $t$-statistics on charity are statistically insignificant and the $t$-statistics on the coefficients of the political indexes remain significant ($t$-statistics range from 2.05 for the ability index to 4.01 for the power index).

Finally, we control for firm age. Newly listed firms are smaller and may have extra cash on hand from their initial public offerings, and so may be less likely to participate in the political process (at least initially), which may result in less of a political contribution effect for these firms.[17] We reestimate our panel regressions of Table IV by including firm age as an independent variable. The coefficient on age is negative and significant, and the significance of the political indexes is relatively unchanged: The $t$-statistics on the coefficients of the four PIs range from 3.79 for the ability index to 6.21 for the power index.

### *B. Political Contribution Portfolios*

In this section, we create political index weighted portfolios. We form the portfolios by weighting each firm by its relative value of a given political contribution index. Thus, firms that have a larger value of a given political index are given a larger weight in a portfolio. The portfolios are rebalanced once a year, at the end of October. The weight given to stock $i$ in the portfolio from November of year $t$ to October of year $t + 1$ is

$$w_{it}^{p} = \frac{PI_{it}^{p}}{\sum_{i=1}^{N} PI_{it}^{p}}, \tag{5}$$

where $p$ equals the portfolio for a particular political index (equations (1) through (4)), and $PI_{it}^{p}$ is the political index value for firm $i$ (where $i = 1, 2, \ldots, N$) in October of year $t$. After forming the portfolios, we obtain a time series of monthly returns to each portfolio from November 1984 to October 2005. We regress the time series of portfolio returns in excess of the risk-free rate on the excess value weighted market returns, the three-factor model (MKT, SMB, and HML), and the Fama–French–Carhart four-factor model (MKT, SMB, HML, and UMD) and report the intercepts in Table VI.

We find that the political contribution portfolios earn positive abnormal returns (relative to the asset pricing models we consider) and that the evidence of abnormal returns is robust to the four political indexes. Across the four PI-weighted portfolios, the CAPM alphas range from 39 to 48 bps, the three-factor alphas range from 7 to 11 bps, and the four-factor alphas range from 18 to 22

[17] In our sample, the average (median) firm age, defined as the number of years since the year with the first nonmissing value of shares outstanding on CRSP, increases monotonically from 18 (15) years for firms in decile 1 of the number of supported candidates index to 44 (50) years for firms in decile 10 of the index. Thus, we are dealing mostly with mature firms in our sample.

**Table VI**
**Monthly Abnormal Returns for Firms Participating in the Political Process, 11/1984 to 10/2005**

Portfolios of contributing firms are formed by weighting each firm by its relative value of a given lagged political contribution index. $PI_{it}^{candidates}$ is the number of supported candidates, $PI_{it}^{strength}$ is the strength of the relationships between candidates and the contributing firm, $PI_{it}^{ability}$ is the ability of the candidates to help the firm, and $PI_{it}^{power}$ is the power of the candidates. The portfolios are rebalanced once a year, at the end of October. The weight given to stock $i$ in the portfolio from November of year $t$ to October of year $t+1$ is

$$w_{it}^{p} = \frac{PI_{it}^{p}}{\sum_{i=1}^{N} PI_{it}^{p}},$$

where $p$ equals the portfolio for a particular political index, and $PI_{it}^{p}$ is the political index value for firm $i$ (where $i = 1, 2, \ldots, N$) in October of year $t$. We form a time series of monthly returns to each portfolio from November 1984 to October 2005. We regress the time series of portfolio returns in excess of the risk-free rate on the market risk premium on the three factors from the Fama–French model and on the four factors from the Fama–French–Carhart model and report the intercept (i.e., the alpha) for each portfolio. Returns are in decimal form, that is, 0.01 is 1%. $t$-statistics are in parentheses.

| | Portfolio Weights | | | |
|---|---|---|---|---|
| Returns | $PI^{candidates}$ Weighted | $PI^{strength}$ Weighted | $PI^{ability}$ Weighted | $PI^{power}$ Weighted |
| CAPM alpha | 0.0040 | 0.0039 | 0.0048 | 0.0040 |
| | (3.35) | (3.15) | (3.74) | (3.35) |
| FF three-factor alpha | 0.0009 | 0.0007 | 0.0011 | 0.0008 |
| | (1.13) | (0.93) | (1.44) | (1.11) |
| FFC four-factor alpha | 0.0021 | 0.0018 | 0.0022 | 0.0021 |
| | (2.94) | (2.43) | (3.18) | (2.99) |

bps. The CAPM and four-factor alphas are all statistically significant, but the three-factor alphas, while exhibiting positive intercepts, are not statistically significant ($t$-statistics range from 0.93 to 1.44). The PI portfolios have market betas close to one, low loadings on SMB (betas range from −0.05 to 0.11), moderate to high loadings on HML (from 0.51 to 0.63), and negative loadings on UMD (from −0.10 to −0.12). Using the loadings from Table I of Fama and French (1996) as a benchmark, the politically active firms match up closely to large-cap firms with a tilt towards value, consistent with our results in Table III that politically active firms are larger firms with slightly greater BM ratios. In addition, the negative loadings on UMD suggest that the firms in our sample are experiencing return reversals, potentially arising from their involvement in the political process.

### *C. Changes in Fundamental Performance*

If a firm benefits economically by contributing to a portfolio of politicians, then these benefits should be reflected in terms of increases in firm

fundamental performance, such as increases in profitability.[18] In this section, we analyze links between contributions, increases in firm profitability, and other firm characteristics. In Table VII we estimate yearly cross-sectional regressions of changes in earnings (ROE($t + 1$) – ROE($t$), where return on equity (ROE) is equal to earnings before extraordinary items scaled by the book value of equity on lagged values of the contribution indexes and standard control variables for forecasting future earnings (lagged Tobin's $Q$, lagged firm capitalization, and lagged changes in ROE). ROE($t$) is from December of year $t$, the contribution index is from October of year $t$, capitalization and $Q$ are from June of year $t$, and changes in ROE is constructed as ROE($t-1$) – ROE($t-2$). As in the previous return regressions, the political indexes are standardized to have unit variance, we take the natural log of capitalization and $Q$, and we follow Petersen (2009) in estimating firm-clustered standard errors to calculate the $t$-statistics on the regression coefficients. As with our previous analysis, to control for potential sample selection bias in terms of which firms contribute, we include the IMR from the Appendix B probit regression as an independent variable in the ROE regressions. If corporate political contributions increase future firm profitability, then we would expect to see positive and significant coefficients on the political indexes.[19]

We find a positive and significant relation between the contributions and future profitability: The coefficients on the four political indexes are all positive and statistically significant, with $t$-statistics ranging from 2.09 for the number-of-candidates-supported index up to 3.49 for the ability index. The coefficients on $Q$ and SIZE are positive and negative, respectively, and significant in all of the specifications, and the coefficients on lagged changes in ROE are always negative and significant. We estimate the ROE regressions adding charitable contributions as an independent variable and find that the results are robust. Our finding that firm operating performance (or profitability) is positively and significantly related to political contributions is consistent with results in Faccio and Parsley (2009), who report that firms connected to local politicians experience a significant decline in sales growth upon the sudden death of the connected politician.

[18] Anecdotal examples of politicians helping firms include: *The Salt Lake Tribune* reports that former congressman Randy Cunningham pressured staff members of the House Intelligence Committee into steering more than $70 million in classified federal business to favored military contractors (Abrams, Jim, 2006, "New House Rule: ID Special Projects," *The Salt Lake Tribune*, September 15, 2006); *The Wall Street Journal* reports that two senators from coal producing states introduced a bill to offer loan guarantees and tax incentives for U.S coal-to-liquid plants (Barta, Patrick, 2006, "South Africa Turns Coal into Oil, and China Looks to Tap Expertise," *The Wall Street Journal Asia*, August 17, 2006); and historically, Benmelech and Moskowitz (2006) note that Senate-initiated usury laws were used by the "elite" to control entry, hamper competition, and lower their cost of capital.

[19] As with our previous analysis relating contributions to returns, a caveat of this analysis is the possibility that unobserved firm characteristics are correlated with contributions and are also the main cause of increased profitability.

**Table VII**

## Panel ROE Regressions for Firms Participating in the Political Process, 12/1984 to 12/2004

This table presents regressions of annual changes in ROE (ROE($t$+1) – ROE($t$)) on the natural logarithm of each lagged political index (PI), the natural logarithm of lagged Tobin's $Q$ (Ln($Q$)), the natural logarithm of the firm's lagged market value of equity (Ln(SIZE)), lagged annual changes in ROE (ΔROE), and the inverse Mills ratio (IMR). ROE($t$) is from December of year $t$, the PIs are computed annually at the end of October of each year $t$, Ln(SIZE) and Ln($Q$) are from December of year $t$, ΔROE is constructed as ROE($t$) – ROE($t$−1), and the IMR is estimated as of October of each year $t$ using the Probit model in Appendix B. $PI_{it}^{candidates}$ is the number of supported candidates, $PI_{it}^{strength}$ is the strength of the relationships between candidates and the contributing firm, $PI_{it}^{ability}$ is the ability of the candidates to help the firm, and $PI_{it}^{power}$ is the power of the candidates. The regression sample includes 10,727 firm-year political index observations. The $t$-statistics are clustered by firm and reported in parentheses.

| Specification | Intercept | Ln($Q$) | Ln(SIZE) | Δ ROE | IMR | Ln($PI^{candidates}$) | Ln($PI^{strength}$) | Ln($PI^{ability}$) | Ln($PI^{power}$) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1018 | 0.0332 | −0.0138 | −0.2605 | −0.0265 | 0.0055 | | | |
| | (2.99) | (3.42) | (−3.32) | (−5.91) | (−2.88) | (2.09) | | | |
| 2 | 0.1025 | 0.0336 | −0.0141 | −0.2606 | −0.0258 | | 0.0070 | | |
| | (3.01) | (3.45) | (−3.37) | (−5.92) | (−2.81) | | (2.41) | | |
| 3 | 0.1024 | 0.0341 | −0.0139 | −0.2606 | −0.0263 | | | 0.0085 | |
| | (3.04) | (3.50) | (−3.42) | (−5.91) | (−2.84) | | | (3.49) | |
| 4 | 0.1041 | 0.0334 | −0.0141 | −0.2605 | −0.0272 | | | | 0.0057 |
| | (2.99) | (3.43) | (−3.30) | (−5.91) | (−2.97) | | | | (2.10) |

## III. Discussion

The regression and portfolio results in the previous sections raise the question of whether the correlation between contributions and returns arises from risk or mispricing. Some readers may view the finding of abnormal returns in a long and broad panel of data as prima facie evidence of a missing risk factor; it may be that firms in our sample with higher values of the political indexes are firms with higher sensitivity to a latent political risk factor. We have run tests using the conditional CAPM[20] and the Fama–French–Carhart factor models, and find that these types of models are not able to explain the return premium for contributing firms. Of course, the results from these tests are subject to the joint hypothesis problem (Fama (1991)), and so the failure of these models to explain our results certainly does not prove that our results arise from mispricing.

Our results showing a correlation between contributions and earnings suggest a real economic effect. The question is, why are these effects not immediately impounded into returns? At least two stories may provide explanations. First, investors may underreact to the contribution-driven changes in earnings of the high contributing firms, similar to results in Bernard and Thomas (1989) documenting that future returns are systematically related to earnings surprises, with the largest-surprise firms experiencing the largest future abnormal returns.[21] Second, investors may process information in a rational manner but have incomplete knowledge of the future changes to firms' earnings from participating in the political process. This type of story is consistent with Brav and Heaton's (2002) idea of "rational structural uncertainty" as a rational explanation for return anomalies. Brav and Heaton discuss how this type of uncertainty exploits the distinction between "rationality" and "rational expectations." In a rational expectations world, rational investors make

[20] We follow Petkova and Zhang (2005), Jagannathan and Wang (1996), and others and examine the covariation of the political portfolio's beta with the expected market risk premium in a conditional CAPM framework. We create an expected market risk premium using a standard set of four business cycle variables (i.e., the default premium, the term premium, the dividend yield, and the short-term Treasury bill rate). We regress the VW market excess monthly returns on the four business cycle variables and then multiply the resulting parameter estimates by monthly realizations of the business cycle variables to generate an expected monthly market risk premium. Next, we estimate a conditional beta for the spread portfolio (composed of a value-weighted portfolios of all firms with PACs minus a value-weighted portfolio of all non-PAC firms) using the four business cycle variables. We regress the monthly portfolio returns on the monthly return of the market scaled by the business cycle variables. The resulting parameter estimates from the regression are multiplied by monthly realizations of the conditioning variables to generate a monthly conditional beta. Finally, we estimate a "beta-premium sensitivity" for the spread portfolio by regressing the time series of the conditional beta on the monthly expected market risk premium. If the time-series variation in the political contribution portfolio is consistent with a conditional CAPM risk-based story, then we would expect a positive and significant beta premium sensitivity (i.e., the portfolio's beta should be higher in more risky states of the world). We find the beta-premium sensitivity is –1.42 ($t$-statistic $= -1.98$), suggesting that the political contribution–based portfolio is less risky in times of high marginal utility of consumption.

[21] For models of investor over- and underreaction, see, for example, Barberis, Shleifer, and Vishny (1998), Daniel, Hirshleifer, and Subrahmanyam (1998), and Hong and Stein (1999).

optimal statistical decisions in a setting about which they have all relevant structural knowledge. Outside a rational expectations world, rational investors still make optimal statistical decisions, but they lack critical structural knowledge. Brav and Heaton's rational structural uncertainty models generate financial anomalies from mistakes or risk premiums that result from this incomplete information. Certain features of our study are consistent with the idea that investors may lack knowledge concerning the benefits to firms from participating in the political process. For example, significant uncertainty over the payoff to political contributions may exist if there is competition from other special interest groups for political favors (Stigler (1971)) or if there is systematic (and unpredictable) variation in the rewards to a firm for being politically involved as a function of the state of the election cycle, or other shifts in the climate for the willingness of politicians to lobby in favor of contributing firms.[22]

## IV. Conclusions

In this article, using data from the U.S. FEC, we create a new and comprehensive database of political contributions made by publicly traded firms to political campaigns in the U.S. from 1979 to 2004. Using this database, we develop a simple measure to describe firms' political contribution practices that is based on the number of candidates that firms support. We document a strong and robust correlation between this contribution measure and a firm's future abnormal returns. We find that the correlations are strongest for firms that support a greater number of candidates that hold office in the same state that the firm is based in and for firms whose contributions are slanted toward House candidates and Democrats. We also document a positive link between the number of supported candidates and the firm's future earnings. We believe that this study contributes to the literature on firm political connectedness by being the first to document evidence of a robust large-sample correlation between political contributions and stock returns.

Ansolabehere et al. (2003) argue that political contributions should not be viewed as investment in the political process but merely as a form of consumption good. Their argument is built around the apparent paradox of campaign financing—if political contributions serve as investment in the political process, the rate of return earned on that investment appears astronomically high (Tullock (1972, 1980)). If we assume that the value of the hard money contributions we use in this article is close to the true cost for firms participating in the

[22] Consistent with these arguments, Stratmann (1998) reports an increase in contributions leading up to elections and Kroszner and Stratmann (1998) report that firms scale down contributions to politicians who are about to retire, so unexpected departures of politicians may change lobbying success. In addition, our earnings results hint at evidence consistent with the idea of rational structural uncertainly; we find that the largest contributing firms, which have the largest increases in future earnings, also exhibit the most uncertainty surrounding future earnings. When we examine the distribution of future changes in ROE for the highest quintile versus the lowest quintile of firms based on the number of supported candidates index, we find that although the highest quintile firms have higher means, they also exhibit greater kurtosis and less positive skewness, suggesting greater uncertainty in future earnings changes for both good and bad outcomes, consistent with greater uncertainty for the high contributing firms.

political process, and if we further assume a causal link between contributions and returns, then our results also suggest an extremely high rate of return for firms participating in the political contribution process.[23] Of course, another story is that the true costs for firms to participate in the political process are much greater than the costs of hard money contributions, and potentially include other off-the-books contributions or nonmoney favors for which only large firms can afford to pay.[24] Further, Milyo et al. (2000) show that large PAC contributors spend 20 to 60 times more on lobbying expenses than they do on hard money contributions. For example, Bombardini and Trebbi (2008) report that lobbying expenditures totaled $2.59 billion in 2006 compared to $345 million donated in campaign contributions from all interest groups during the 2005 to 2006 election cycle. Alternatively, it is possible that politicians find it most beneficial to grant favors to large firms because those are the firms that generate the largest amount of tax revenues and jobs. For example, Bertrand et al. (2006) find that firms managed by connected CEOs in France create more jobs in more politically contested areas, and that this is especially the case around election years. Overall, to the extent that the costs of successfully participating in the political contribution process are higher than the nominal costs of PAC contributions, and to the extent that firms receive real economic benefits from their participation, our results are consistent with the idea that firms participate in the political system not from the standpoint of consuming a patriotic consumption good, as discussed in Ansolabehere et al. (2003), but rather from the standpoint of creating positive net present value investments.

## Appendix A: Variable Definitions

The variables used in the article are listed below (with Compustat data items in parentheses). Industries are defined using Fama–French 48 industry definitions.

Market value (SIZE) is the price per share times shares outstanding at the end of October of calendar year $t$.

Book-to-market equity (BM), for the fiscal year ending in calendar year $t$, is as defined in Davis, Fama, and French (2000), where book equity (BE) is stockholders' book equity (data60), plus balance sheet deferred taxes and investment tax credit (data35), minus book value of preferred stock (in the following order: data56 or data10 or data130) and ME is the price times shares outstanding at the end of December of calendar year $t$.

ASSETS is total assets (data6).

ROE is income before extraordinary items (data18) scaled by total common equity (data60).

[23] In our sample, firms invest an average total contribution amount per year of $23,471 and earn an average increase in shareholder wealth of $163.8M per year (i.e., the average annual increase in four-factor model abnormal shareholder wealth is 21 basis points × 12 months × average firm capitalization of $6.5B = $163.8M).

[24] Cheung et al. (2006) argue that governments can obtain resources from firms in the forms of bribes and other payoffs.

LEVERAGE is the sum of long-term debt and debt in current liabilities, scaled by total assets [(data9 + data34)/data6].

BHRET12 is the 12-month buy-and-hold return from October $t-1$ to September $t$ $[(1+r_1)\cdots\times(1+r_{12})-1]$, where $r_i$ is the return in month $i$.

BHRET36 is the 36-month buy-and-hold return from October $t-3$ to September $t$ $[(1+r_1)\times\cdots\times(1+r_{36})-1]$, where $r_i$ is the return in month $i$.

Cash Flow (CF) is as used in Titman, Wei, and Xie (2004). Specifically, it is defined as Cash Flow = (Operating income before depreciation – interest expenses – taxes – preferred dividends – common dividends)/total assets [data13 − (data15 + data16 + data19 + data21)]/data6.

Tobin's $Q$ market value in fiscal year $t$ is measured as price times number of shares outstanding at the end of fiscal year $t$ (data199 ∗ data25) divided by book equity (BE) in fiscal year $t$.

EMPLOYEES is the number of employees in millions (data 29).

PROFIT is operating income before depreciation scaled by lagged total assets (data13/data6).

NO. BUSINESS SEGMENTS is the number of business segments reported in the Compustat Segment File.

NO. GEOGRAPHIC SEGMENTS is the number of geographic segments reported in the Compustat Segment File.

MARKET SHARE is firm sales (data 12) scaled by total industry sales.

HERFINDAHL INDEX is the Herfindahl index of industry concentration computed with firm net sales figures from Compustat.

REGULATION INDICATOR is an indicator variable equal to one if a firm operates in the financial services industry (one-digit SIC code 6) or in the utilities industry (two-digit SIC code 49) and zero otherwise.

GOVERNMENT PURCHASES is the percent of total industry output purchased by the federal and state governments from the U.S. Economic Census.

NO. POLITICALLY ACTIVE FIRMS is the number of firms in a firm's industry with an established political action committee (PAC).

PERCENT EMPLOYEES UNIONIZED is the average annual percent of industry employees belonging to labor unions from Hirsch and Macpherson (2003).

## Appendix B: Determinants of Firms' Political Activity, 1984–2005: First-Stage Probit Model

A firm's political activity status is regressed on the natural logarithm of firm size, (Ln(SIZE)), the natural logarithm of firm sales (Ln(SALES)), the natural logarithm of the number of employees (Ln(EMPLOYEES)), the number of the firm's business segments (NO. BUSINESS SEGMENTS), the number of the firm's geographic segments (NO. GEOGRAPHIC SEGMENTS), the book-to-market ratio (BM), leverage (LEVERAGE), cash flow (CF), the firm's market share in the industry (MARKET SHARE), market share squared ((MARKET SHARE)$^2$), the Herfindahl sales concentration index (HERFINDAHL INDEX), the regulated industry indicator (REGULATION INDICATOR), the amount of industry output purchased from the government (GOVERNMENT

PURCHASES), the number of politically active firms in the industry (NO. POLITICALLY ACTIVE FIRMS), and the percentage of industry employees that are unionized (PERCENT EMPLOYEES UNIONIZED). Political activity status is equal to one if a firm has a registered political action committee in November of year $t$, and zero otherwise. The independent variables are updated annually using information from the end of October of year $t$. The probit model is estimated annually for all firms on the merged CRSP/Compustat database with nonmissing values of the independent variables. The sample has 63,645 firm-year observations. From the probit regression, we calculate the inverse Mills ratio (IMR) from Heckman (1979) each year and include this ratio as a lagged independent variable in the Table IV, V, and VII panel regressions.

| Variable | Probit Model (1 = active; 0 = not active) Coefficient |
|---|---|
| Intercept | −4.2257 |
| | (−26.11) |
| Ln(SIZE) | 0.2294 |
| | (5.38) |
| Ln(SALES) | 0.2157 |
| | (11.33) |
| Ln(EMPLOYEES) | 0.1350 |
| | (21.01) |
| NO. BUSINESS SEGMENTS | 0.0399 |
| | (3.86) |
| NO. GEOGRAPHIC SEGMENTS | −0.1098 |
| | (−3.88) |
| BM | −0.0342 |
| | (−0.50) |
| LEVERAGE | 0.5305 |
| | (20.10) |
| CF | −0.6495 |
| | (−6.63) |
| MARKET SHARE | 0.7154 |
| | (1.99) |
| (MARKET SHARE)$^2$ | 0.3407 |
| | (0.21) |
| HERFINDAHL INDEX | 0.2624 |
| | (0.56) |
| REGULATION INDICATOR | 0.3918 |
| | (4.08) |
| GOVERNMENT PURCHASES | 1.0164 |
| | (4.82) |
| NO. POLITICALLY ACTIVE FIRMS | 0.0003 |
| | (5.71) |
| PERCENT EMPLOYEES UNIONIZED | 1.8151 |
| | (14.83) |
| Log-likelihood /$R^2$ | −812.49/0.411 |
| $N$ | 63,645 |

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