The Jeffords Effect

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Abstract

In May 2001 Senator Jim Jeffords left the Republican Party and tipped control of the U.S. Senate to the Democrats. This paper uses the surprise event to demonstrate what I term the "Jeffords effect": changes in the political landscape have large effects on the market value of firms. I use a firm's soft money donations to the national parties as the measure of how the firm aligns itself politically. In this event study of large public firms, a firm lost 0.8% of market capitalization the week of Jeffords' switch for every $250,000 it gave to the Republicans in the previous election cycle. Based on the point estimates, the stock price gain associated with Democratic donations is smaller than the loss associated with Republican donations, but the estimates are consistent with the coefficients being equal and opposite. The results withstand several robustness checks, and the effects appear to persist long after the event.

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"In order to best represent my state of Vermont, my own conscience and principles I have stood for my whole life, I will leave the Republican Party and become an Independent. Control of the Senate will be changed by my decision."

Senator Jim Jeffords, remarks at a press conference, May 24, 2001

I. Introduction

In May 2001 Senator Jim Jeffords of Vermont rocked the American political establishment when he announced he was leaving the Republican Party. With this move, he tipped control of the United States Senate from the Republicans to the Democrats. Democrats took over the chairmanships of the Senate committees and other leadership positions and gained influence over the legislative agenda, confirmation of Presidential appointees, and more. Jeffords significantly changed the political landscape, and this paper uses the event to demonstrate what I term the "Jeffords effect": shifts in political power have a large effect on the market value of firms. Moreover, how a firm's market value responds to political shifts is associated with whether the firm donated money to those politicians who gained or lost power and how much they donated.

The paper conducts an event study of the Jeffords defection and uses corporate soft money donations (unregulated contributions to the political parties) to explain the cross-sectional variation in stock market responses. The momentousness and suddenness of Jeffords' party-switch make it a nearly ideal way to measure how much politicians can affect firms. I find that politicians and federal policy have a significant impact on U.S. firms. The Jeffords defection caused a firm that had donated $250,000 to the Republicans in the previous election cycle (which was the average among Republican donors in the sample) to lose 0.8% of market capitalization the week of Jeffords' switch. Based on the point estimates, the same level of Democratic donations is associated with a gain in market value that is smaller in magnitude (0.4%), though the estimates are consistent with the coefficients being equal and opposite. The relationship between stock returns and political donations appears to persist for several weeks after the event.

Conventional wisdom assumes that this correlation exists between how much a firm donates to

politicians and how helpful the politicians are to the firm, yet an extensive previous literature has had limited success at establishing its existence. Methodological improvements, namely the event-study approach and a better measure of donations, allow me to provide evidence that politicians are more helpful to their donors. An important open question that the results do not fully resolve is whether the relationship is causal, that is, whether firms contribute to politicians whose intrinsic views match the firms' interests or whether donations affect politicians' behavior.

The paper is structured as follows. Section 2 discusses the motivation and related literature. Section 3 describes the methodology. Section 4 provides background on U.S. campaign finance and chronicles Senator Jeffords' defection. Section 5 describes the data. Section 6 presents the results. Section 7 concludes.

II. Motivation and Related Literature

The role of campaign contributions in government has been studied extensively by political scientists and economists. Most theoretical models depict contributors as trying either to help elect candidates whose interests are aligned with theirs or to alter how politicians act once elected (Baron 1989, Grossman and Helpman 2001). Similarly, a main empirical goal is to test whether contributions are intended to influence election outcomes or politicians' behavior in office. This distinction may seem immaterial since both are ways that money translates into political clout. However, the distinction matters under U.S. law. Individuals and groups are allowed to spend money to affect election outcomes, subject to some restrictions. However, a campaign contribution cannot be one half of a quid pro quo, where quid pro quo means that the contribution causally affects how the recipient politician governs.

There is evidence against the view that the sole purpose of donations is to influence election results. Welch (1980) argues that if this were the correct view, donations would focus on close elections, yet he shows that most donations go to incumbents who typically are heavily favored to win re-election. Stratmann (1998) finds that the timing of campaign donations often coincides with key

legislative debates taking place in the current Congress as opposed to being timed to the election cycle when politicians are making campaign expenditures. Kroszner and Stratmann (1998) show that contribution patterns are consistent with a legislator using his committee positions to build the reputation that he will provide services in exchange for donations.

The direct evidence that donations affect or are even correlated with legislators' behavior is weaker. Many studies use floor votes on bills as the measure of legislators' behavior. Grenzke (1989) finds little evidence that donations cause House members to vote differently than their personal ideology or their district's ideology would predict. Bronars and Lott (1997) argue that legislators who do not intend to run for re-election and hence do not need to stay in the good graces of their contributors are freed to vote according to their own views. The authors find no change in voting patterns during the last term in office. A recent exception is Stratmann (2002) who provides evidence that more contributions from an industry are associated with voting behavior in favor of the industry. He compares two floor votes affecting the financial industry and finds a positive within-politician correlation between donations from the industry and votes in its favor.

This line of academic research bears directly on public policy. Opponents of campaign finance reform cite the null results in the literature as evidence against the existence of quid pro quo. For example, Senator Orrin Hatch testified at a Senate hearing that "[T]here is simply no real empirical evidence to support a rational conclusion—let alone evidence to support strict scrutiny—that these types of expenditures lead to corruption… Whatever studies that have been done have found little or no connection between campaign contributions and legislative voting records." He cited Bronars and Lott (1997) and similar work.[1] However, as argued in the next section, the previous null results may be explained by methodological problems.

Interestingly, the Supreme Court regards even the raw correlation as important: a positive correlation *per se* is disconcerting because "the appearance of corruption" jeopardizes our democratic

[1] Testimony before the Senate Committee on Rules and Administration, April 26, 2000.

system. In its landmark opinion *Buckley v. Valeo* (1976), the Court wrote that the purpose of campaign finance regulation is to prevent both "corruption and the appearance of corruption spawned by the real or imagined coercive influence of large financial contributions on candidates' positions and on their actions if elected to office."[2]

III. Methodology

The focus on floor votes as the measure of politicians' behavior is a limitation of previous empirical work on contributions and legislators' behavior. Floor votes are not the only, or even the most likely, means by which politicians could help or hurt firms. Politicians do not want to be seen as favoring their donors. Votes are highly visible; they are in the public record and are scrutinized by watchdog groups. But behind the scenes, a legislator might scuttle a bill before it reaches the floor, lobby colleagues about an issue, or add a seemingly unremarkable but important clause to a bill.[3] Unfortunately, actions designed to be undetectable by voters or muckrakers are also difficult for a researcher to observe and measure.

Thus, the approach I take is to abstract from the particular channels that politicians might use to help donors. I use the stock market's valuations as the measure of how helpful politicians are to a firm. An efficient stock market will capitalize the expected value that politicians confer on a firm. If the politicians in power are expected to be helpful to a firm, the boost to the firm's expected profits will be reflected in its stock price. This approach assumes that (marginal) stock market traders know how valuable different politicians are to a firm, though they need not know that the firm's donations reflect or affect how valuable the politicians are. Also, regardless of whether the relationship between donations and politicians' actions is causal or non-causal, the methodology will capture the value that politicians confer on a firm. Firms might donate to politicians whose views are aligned with theirs,

[2] In *Nixon v. Shrink* (2000), the Supreme Court elaborated on its concern about the appearance of corruption: "Leave the perception of impropriety unanswered, and the cynical assumption that large donors call the tune could jeopardize the willingness of voters to take part in democratic governance."

[3] Hall and Wayman (1990), making this same argument, examine as their measure of politicians' behavior the amount of time spent on committee activity related to donor industries and find a positive correlation.

with politicians' behavior unaffected by donations. Or donations might influence politicians' behavior: firms might buy access or favors through their contributions. Donations also could have an effect on behavior if politicians retaliate against firms that donate to their opponents (Kroszner and Stratmann 1998). In any of these cases, a firm's market value should fall when the politicians who are more helpful to the firm no longer control the legislative agenda. Roberts (1990) first used this approach to study the stock market reaction when Senator Henry Jackson died suddenly in 1983. The event modestly changed the political landscape, and the stock market response associated with donations was statistically significant but small. Roberts reports that 11 firms that donated to Jackson had lower stock returns than 3 firms that did not. Other applications of this approach include Herron et al. (1999) in the U.S., Herron (2000) in the United Kingdom, and Fisman (2001) in Indonesia.

I conduct an event study of Sen. Jeffords' defection from the Republican Party and use cross-sectional variation in the amount of soft money that firms donated to each political party to explain the stock market reaction to this news event. I test whether firms that donated more to the Republican Party experienced larger declines in their stock prices, and whether firms that donated more to the Democratic Party experienced larger gains. The basic estimating equation is

$$Rtn_i^e = \alpha + \beta_D Dem_i + \beta_R Rep_i + \varepsilon_i . \quad (1)$$

Rtn_i^e is the stock price return for firm *i* during the event window (the superscript *e* denotes event); that is, it is the change in the stock price during the event window divided by the pre-event stock price. Dem_i and Rep_i measure the firm's past donations to the Democratic and Republican Party, respectively, and ε_i is a random error term. The prediction is that β_D will be positive and β_R will be negative since the Jeffords event raised the stature of Democrats and diminished the stature of Republicans.

I also estimate a market model of stock returns and then use the abnormal return rather than the actual return as the dependent variable to account for firm-specific betas (Campbell, Lo, and

MacKinley 1997).[4] The market model posits a stable linear relationship between an individual firm's return Rtn_{it} and the market return $MktRtn_{it}$. For each firm *i*, I estimate the following equation using stock price data for each day *t* in a pre-event period:

$$Rtn_{it} = \alpha_i + \beta_i MktRtn_t + \varepsilon_{it}$$

Each firm's abnormal return during the event window (the difference between its actual and expected return) is calculated using the estimated coefficients from the above regression along with the market return during the event window:

$$Abn_i^e = Rtn_i^e - [\hat{\alpha}_i + \hat{\beta}_i MktRtn^e]$$

A third dependent variable used is the (abnormal) dollar change in stock market capitalization for firm *i* during the event period, which is simply its market capitalization at the beginning of the event window multiplied by Abn_i^e.[5] This outcome has the units of a "return on investment."[6] For example, the coefficient on Dem_i in a regression analogous to (1) answers the question, for every dollar a firm donated to the Democrats, how much did its market value change due to the Jeffords event?

IV. Background on Campaign Finance and the Jeffords Defection

A. Campaign finance

The U.S. campaign finance system takes its shape from the Federal Election Campaign Act of 1971 (FECA) and the creativity of politicians and donors over the past thirty years to find loopholes in FECA. FECA places limits on *hard money*, or donations to a particular candidate. A corporation,

[4] The abnormal return should make the estimation more precise. It also addresses the concern that the stock prices of some firms might covary, and therefore each observation is not independent. If the covariance arises because firms have the same covariance with the market, the firms will have the same estimated beta, and their abnormal returns will be independent.

[5] A fourth dependent variable, the actual change in market capitalization calculated using actual instead of abnormal returns, gives very similar results so I do not report them.

[6] Interpreting the coefficient as a return on investment requires many assumptions, as discussed in section 6.F.

through its political action committee, can donate no more than $5000 per candidate per election, for example.[7]

FECA was challenged on First Amendment grounds in the 1976 case *Buckley v. Valeo*. The Supreme Court ruled that while some forms of spending are protected as free speech, limits on contributions to politicians' campaigns are warranted to curb "corruption and the appearance of corruption." The majority wrote, "To the extent that large contributions are given to secure a political quid pro quo from current and potential office holders, the integrity of our system of representative democracy is undermined."

Soft money, or money donated to the non-federal accounts of a political party, became the loophole-of-choice in political fundraising beginning in the 1980's and especially after 1990. The total soft money raised by the major parties grew three-fold from the 1984 to the 1992 election cycle and then over four-fold from 1992 to 2000 (from $38 million in 1984 to $110 million in 1992 to $495 million in 2000, measured in 2000 dollars).[8] FECA regulates only federal elections and therefore did not put limits on soft money. Nominally, the uses of soft money were restricted to general party-building activities (e.g., voter registration drives) and local and state elections, but most agree that soft money served as an unregulated channel through which federal elections were funded. The majority of soft money in 2000 was spent on television and radio "issue ads" that, while not expressly endorsing a particular candidate, seemed to be aimed at affecting votes in federal elections.

Given the ascendancy of soft money, the use of soft money instead of hard money as the measure of political contributions is another advantage of this methodology compared with that of previous research. In particular, because a firm faced no limit on soft money donations, soft money may provide a richer measure of the resources that a firm devotes to influencing the political process.

[7] FECA requires corporations and interest groups to donate through a political action committee. Among its other provisions, FECA also created the Federal Election Commission to oversee campaign finance. Many of the important features of FECA are 1974 amendments made in the wake of Watergate.

[8] Explanations for the rise in soft money include that a 1978 FEC administrative ruling cleared the way for soft money; the parties then gradually discovered the loophole; and elections became more competitive in the 1980's, creating a demand for new ways to fundraise (Sorauf 1999).

In addition, the primary effect of Jeffords' defection was to change the power of the political parties, so soft money, which is donated to a political party rather than a candidate, is the appropriate type of donation to examine.[9]

B. The Jeffords defection

The Jeffords defection is an ideal event for studying shifts in the political power of the Democratic and Republican parties. The event had large implications—it tipped the Senate from Republican to Democratic control. In addition, the event was unexpected, and it unfolded over a brief period of a few days.

After the November 2000 elections the U.S. Senate was split evenly with 50 Republican and 50 Democratic Senators. The Constitution grants tie-breaking rights to the Vice President, in this case Republican Dick Cheney, so the Republicans became the controlling or "majority" party when the 107th session of Congress began in January 2001. For the next four months Republicans occupied the leadership positions and controlled the legislative agenda.

Jim Jeffords, a Republican Senator from Vermont, was more moderate than most of his Republican colleagues, but few people realized the extent of Jeffords' disaffection with his party until the evening of Friday, May 18, 2001, when the media reported rumors that Jeffords might leave the Republican Party.[10] On Tuesday Jeffords confirmed that he was considering changing his party affiliation and that he would announce his decision on Wednesday. On Wednesday he postponed his decision until Thursday. On the morning of Thursday, May 24, Jeffords announced he was leaving the Republican Party and would become an Independent, citing disagreements with the Republican Party

[9] In 2002 Congress passed the Bipartisan Campaign Finance Reform Act which bans political parties from raising soft money. The Supreme Court upheld this provision in McConnell v. FEC (2003). "527 groups," named for the section of the tax code that governs them, are currently the main outlet for unlimited donations and are technically unaffiliated with the parties.

[10] The chronology is based on Jeffords (2001), private communications with Jeffords' spokesman Erik Smulson, and newspaper accounts. CNN reported the rumor Friday on its program "Inside Politics." Some Vermont papers reported the rumor earlier, but, according to Smulson, the rumor began spreading Friday evening. The first story in a major newspaper (*Los Angeles Times*) was on Tuesday, May 22, 2001.

on "issues of choice, the direction of the judiciary, tax and spending decisions, missile defense, energy and the environment, and a host of other issues, large and small." The extraordinary implications of Jeffords' decision were immediately clear. The Senate would now be a 50-49-1 Democratic majority. The ranking Democrats who had held "shadow" positions would assume the leadership positions. Tom Daschle would replace Trent Lott as Majority Leader, Robert Byrd would take over from Ted Stevens as chair of the Appropriations committee, Paul Sarbanes would be in and Phil Gramm out as chair of the Banking Committee, etc. In short, Democratic Senators gained clout and Republican Senators lost clout.[11,12]

V. Data and Estimation of Abnormal Returns

A. Sample definition

I examine the largest public firms in the U.S. by market capitalization based on the Forbes 500 list for 2001.[13] The sample consists of the 498 of the 500 firms for which the necessary data are available.[14] The market capitalization ranges from $1 billion to more than $500 billion (General Electric) with a sample average of $22.2 billion. Summary statistics are reported in Table 1.

B. Soft money contributions

Beginning in 1991 the Federal Election Commission (FEC) required political parties to disclose soft money contributions, and the data are publicly available from the FEC. Common Cause, a non-

[11] Some Senate votes require a supermajority, and the Jeffords switch had no effect on this margin. Thus, the results I present suggest the importance of the agenda-setting power that accrues to a party when it achieves a simple majority. See, for example, Cox and McCubbin (1993) on parties' sources of power in the legislature.
[12] In the subsequent 2002 elections, Republicans regained control of the Senate, though it is doubtful that many anticipated this outcome in May 2001 since the President's party generally loses ground in Congress in midterm elections. An unforeseen factor that helped Republican candidates in the 2002 elections was the terrorist attacks of September 11, 2001.
[13] Market capitalization rankings are as of March 14, 2001. The sample is limited to large firms because Common Cause has less complete soft money data for smaller firms and fewer small firms donate.
[14] The missing firms are Old Kent Financial and Delhaize America. Old Kent merged with Third Fifth Bancorp in April 2001. The results are insensitive to whether Old Kent's donations are attributed to Third Fifth (which is in the sample). Delhaize listed on the NYSE only in April 2001, so data to estimate the abnormal return are unavailable. Regressions that use the actual return as the outcome are insensitive to the inclusion of Delhaize.

profit group based in Washington, D.C., aggregates the donations made by a firm and donations in excess of $10,000 made by its employees. Large individual contributions are included because they are typically made by the CEO or other top executive, acting as an agent of the firm. In any case, the individual employee contributions are a small portion of the soft money amounts.[15] I obtained the soft money data from the Common Cause website (Common Cause 2002).

I use soft money donated in 1999 and 2000 as the measure of political contributions. This two-year period is what the FEC considers the 2000 election cycle, which is the election cycle that immediately precedes the Jeffords event. Panel B of Table 1 summarizes these data. The average donation to the Democratic Party is $63,000 and to the Republican Party, $131,000. In the sample, 67% of soft money went to the Republican Party, similar to the 63% of all soft money donated by corporations in the 2000 election cycle.[16] The 498 firms in the sample collectively donated about $100 million in soft money; the overall total for corporate soft money (including private companies and smaller public companies) was $200 million. Note that 56% of the firms in the sample made a soft money donation during the 2000 election cycle.

Panel B also categorizes the donating firms according to whether they gave predominantly to the Democrats, predominantly to the Republicans, or comparable amounts to each party (the excluded category). I note as an aside that it is difficult to reconcile balanced giving to both parties with the view that firms donate to help certain politicians win elections. Equal and opposite donations offset each other and are thus *prima facie* inconsistent with a preference that one party rather than the other succeed in the elections. This suggests that balanced givers may be trying to gain access to both parties. Firms' different strategies for targeting their political contributions is an important but not well-understood question.

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[15] The FEC disclosure form requires an individual donor to list his employer. Common Cause also uses corporate websites and annual reports to identify a firm's executives. The process inevitably involves some judgment calls. Common Cause typically includes donations of retired CEOs, for example. These decisions do not change the soft money totals appreciably. (Matthew Shaffer, Common Cause, private communication, May 2002).

[16] The overall figure excludes donations by a firm's employees. The Democratic Party receives 99% of unions' soft money donations so, on net, 46% of all soft money in the 2000 election cycle. FEC (2002).

C. Stock price data

Stock price data are from the Center for Research on Security Prices (CRSP). I use the daily closing stock price and number of outstanding shares for individual firms. Standard Industry Classification (SIC) codes are from Compustat.

The event window I use for the empirical analysis is end-of-day on Friday, May 18, 2001, to end-of-day on Friday, May 25, 2001. As shown in Panel C of Table 1, the average event-week return (change in stock price divided by pre-event stock price) for firms in the sample was –0.2% with a standard deviation of 4.6%. The overall market return, as measured by the CRSP value-weighted equity return, was 0.6%. The average change in market capitalization in the sample was -200 million dollars.

D. Estimation of abnormal returns

I use stock price data for May 2000 through April 2001 to estimate the market model as explained in Section 3. Summary statistics for the estimates are presented in Panel D of Table 1. The average $\hat{\beta}_i$ is 0.90; firms in the sample are slightly less volatile than the market as a whole. The mean estimated alpha $\hat{\alpha}_i$ is 0.001.

VI. Results

A. Main results

Table 2 presents the main results. In column 1 the dependent variable is the firm's abnormal stock return during the event week. The variables for soft money are in units of $100,000. An additional $100,000 donated to the Republican Party is associated with a 0.33% lower stock return during the event window. This result is statistically significant at the 1% level (using standard errors that allow for heteroskedasticity and clustering within a 4-digit SIC code). The coefficient on giving to Democrats is positive and half the magnitude of the Republican coefficient, but statistically insignificant. Figure 1 shows how the stock market responded day by day. At each date on the

horizontal axis, the coefficients plotted are from a separate regression in which the dependent variable is the cumulative abnormal return from the start of the window, May 18, through that date. For example, since May 25 is the end date of the window used in the main analyses, the plotted coefficients for May 25 are those given in column 1 of Table 1. The figure suggests that the stock market gradually responded to the news about Jeffords' switch.

Because the event-week market return was quite small (0.6%), the results are similar whether the abnormal or actual return is used as the dependent variable. Column 2 reports the regression using the actual return. Both soft money coefficients have slightly smaller magnitudes. With abnormal or actual returns as the dependent variable, soft money to the Republican Party is a stronger negative predictor of stock returns in response to the Jeffords event than soft money to the Democratic Party is a positive predictor. This pattern may simply be due to imprecise estimates. There is less variation in Democratic giving than in Republican giving, and the standard error is considerably larger. One cannot reject at even the 10% level that the coefficients are equal in magnitude and opposite-signed (though one can reject at the 1% level that the coefficients are equal). In addition, for other specifications discussed below, I find equal and opposite coefficients. Nonetheless, it is worth speculating why there, in truth, might be an asymmetry. One possibility is that the Jeffords defection created divided government and politicians are less able to provide help to firms when there is gridlock. After the 2000 elections, the Republicans controlled the Senate, the House, and the White House, and their sweep might have given them considerable ability to enact policies; their efforts in one legislative chamber would not be thwarted by the other chamber or the President. Thus, when Jeffords switched parties, the Republicans may have lost more power than the Democrats gained.

In column 3 the dependent variable is the abnormal change in the firm's market value over the event window (its abnormal return multiplied by its pre-event market value). The coefficient on Republican giving, for example, means that for every dollar a firm donated to the Republican Party, it lost $2313 in market value when Jeffords defected. The coefficient on Democratic giving is very similar in magnitude. These point estimates suggest a symmetry between Republican and Democratic

giving, but the imprecision of the estimates makes it difficult to draw strong conclusions. Also note that, in general, the specifications using change in market value as the outcome have more explanatory power than those using abnormal returns (higher R^2). The abnormal return is the standard dependent variable in event studies, but in this setting the change in market value has the appealing feature that, under the estimating model, each dollar a firm spends on campaign contributions corresponds to a certain dollar loss or gain in market value. Indeed, I use these coefficients to calculate an expected "return on investment" from soft money donations in section 6.F. For the remainder of the paper, I report results using the abnormal return, as well as the change in market value for cases in which the two dependent variables yield substantially different results.

One way to gauge the magnitude of the Jeffords effect to is to calculate the total amount of market value that firms gained or lost as a result of the event. Using the estimated coefficients on Dem_i and Rep_i from the regression reported in Table 2, column 1, I calculate the predicted abnormal return of each firm multiplied by its pre-event market capitalization, and then take the absolute value of this amount. (Predominantly, firms are predicted to have lost market value because more firms are net donors to the Republican Party and because the Republican coefficient is larger.) Aggregated across the sample, $97 billion in market capital shifted as a result of Jeffords' switch which represents 0.9% of the firms' total market value. Analogous calculations that use the market change estimates (column 3) give nearly identical results.

One can also compare the returns of Republican donors to those of regulated firms, which are expected to fare worse under Democratic policies. Firms in regulated industries (railroads, public utilities, banking, finance, and insurance) lost on average 0.96%, as shown in column 4 of Table 2, though this estimate has a large standard error. Among firms that donated to the Republican Party, the average amount was $250,000 which corresponds to a 0.83% stock price decline using the estimated coefficients. Thus, a typical Republican donor experienced a decline in stock price comparable to but slightly less than that of a regulated firm.

B. Alternative specifications

Although I do not develop a full model of the strategic game played by firms and politicians, the basic specification assumes that returns depend on the quantity donated to each party. Another possibility is that politicians reward firms that are loyal to them more than firms that also help the opposing party. I test this possibility in Table 2, column 5 where donations are broken down into the total amount donated and the fraction donated to the Democratic Party. The regression also includes dummy variables for whether any soft money was donated to each party. The fraction donated to the Democratic Party has a positive but insignificant coefficient (p-value of.12). Alternatively, what matters might be whether a firm donated any money at all to the opposing party. In column 6, donation levels are interacted with dummy variables for whether the firm donated any money to the other party. The interaction terms are statistically insignificant. Their signs are the opposite of what one would expect, suggesting for example that for a given level of Republican donations, a firm fared worse if had also given to the Democrats.

It might also be the case that a $100,000 donation from a smaller firm "means more" than the same-sized donation from a larger firm in terms of either how much the firm values a party's policy agenda or the amount of access or favors that politicians provide in exchange. Thus, I consider a specification in which the soft money variables are normalized by firm size (market capitalization). The coefficient on Republican giving of –238, as shown in column 7, implies that a donation equal to one thousandth of a firm's market capitalization is associated with a 0.24% stock price decline. The coefficient on Democratic giving is small, imprecise, and in fact negative.

C. Robustness checks

Next I show that the results withstand several robustness checks. The correlation between donations and stock price returns does not appear to be driven by outliers or to be otherwise spurious. A first concern is that since larger firms make the largest donations, soft money proxies for an omitted variable, firm size. The pattern of coefficients is unchanged when market capitalization is included as

a control variable, as shown in column 1 of Table 3.[17] Next to ensure that the results are not driven by outliers, I use as the dependent variable a dummy variable for whether the abnormal return was positive (Table 3, column 2). Each additional $100,000 donated to the Republican Party corresponds to a 3.7% higher probability that the firm lost market value as a result of the Senate power shift. The same amount donated to the Democrats leads to a 1.3% higher probability that the firm gained value. As a further check that the findings do not rely on outliers, I estimate a median regression in column 3. The results are very similar to the OLS results.

Another concern in this event study, as in any, is that the response to the event of interest is conflated with responses to simultaneous events. If other news events during the event week affected firms in a manner correlated with their soft money donations, it would be inappropriate to attribute the stock price changes to the "Jeffords effect." To address this concern I examined the content of every front-section and business-section article from The *New York Times* and *Wall Street Journal* during the event week to identify other news that may have affected stock prices. This method, albeit unscientific, supports the view that what I measure is indeed a Jeffords effect. The other financially important news story during the event week was a rebound in the technology sector in response to good general economic news. The technology sector's donations were similar to but slightly more Republican-leaning than the rest of the sample's. Column 4 of Table 3 presents the results when the technology sector is excluded.[18] The soft money coefficients are very close to those in the full-sample case.

Finally, I examine the subsample of 279 firms that contributed soft money to one or both parties to examine how much of the relationship is driven by the non-donor/donor margin. As shown in column 5 of Table 3, the coefficient on Republican giving remains statistically significant at the 1%

[17] The results are also unchanged when the log of market capitalization is the control variable. I also check that that the results are not driven exclusively by large firms by breaking the sample into the largest 100 firms by market capitalization and the smaller 398 firms. The coefficient on Republican giving is negative and significant at the 1% level in both subsamples.

[18] The technology sector is defined as 3-digit SIC codes 357 (Computer and Office Equipment); 367 (Electronic Components and Accessories); and 737 (Computer Programming and Data Processing). There are 77 firms from the sample in these industries.

level. The coefficient is smaller in magnitude than in the full-sample analysis, and within the subsample of donors, Republican and Democratic giving have equal and opposite correlations with abnormal returns.

D. Different event windows

Next, I consider different event windows to determine how sensitive the results are to the exact definition of the event window, as well as whether the effects persist. I first examine shorter event windows. As discussed in section 4.B., rumors about Jeffords began the night of Friday, May 18, 2001, and Jeffords announced his decision on Thursday, May 24. The new Senate was atypically configured (Jeffords, now an Independent, would begin caucusing with the 50 Democrats to give them a majority-by-coalition), and it took a day or two to resolve some issues such as how many seats per committee the Democrats would gain, so I use a week-long window from the close of May 18 through May 25. However, the news about Jeffords' potential defection was not widely reported until Tuesday morning (May 19) and the main uncertainty about Senate control was resolved Thursday, so I consider windows that begin on Monday, May 21, and/or end on Thursday, May 24. Columns 1 to 3 of Table 4 present the results. Similar but smaller coefficients are found for Republican giving, consistent with the market gradually responding to the news over the week. The coefficient on Democratic giving remains imprecise, but the point estimates are comparable to and sometimes slightly larger in magnitude than the Republican coefficients.

Columns 4 and 5 examine event windows that begin two days or one week earlier than the baseline window. The results for the nine-day window are nearly identical to the main results. When the window begins May 11, the results are weaker, however, and the Democratic coefficient is wrong-signed. The estimated constant term is relatively large which implies that bigger firms had higher returns than the market as a whole, suggesting that other news during the week of May 11 may be affecting stock returns and confounding the analysis when this window is used.

Finally, I consider longer event windows. An important caveat for longer windows is that the

identification assumption that abnormal returns are driven solely by the Jeffords news becomes less credible. Columns 6 to 9 of Table 4 show the results for windows that begin May 18 and extend 2 weeks, 1 month, 2 months, and 3 months after the event. Figure 2 plots the day-by-day coefficients as the window is successively lengthened from 1 day through the end of August. The stock market's reaction to the Jeffords event does not appear to have been transitory. Throughout the period, the coefficient on Republican donations remains negative and the coefficient on Democratic donations, positive. Two noteworthy patterns emerge. First, over time both coefficients increase in magnitude, and, second, the Democratic coefficient becomes larger than the Republican coefficient, reversing the asymmetry seen with the one-week window. The large run-up in the coefficients is quite likely being driven by other events. The Republican coefficient, which is the one estimated more precisely, holds steady at its initial post-event level through early June. For example, the coefficient using a window that extends two weeks to June 1 (Table 4, column 6) is nearly identical to the coefficient for the main one-week window (Table 2, column 1). The estimates after the first week in June might not be a clean measure of the Jeffords effect. Interestingly, though, the coefficients stabilize in August to values the same order of magnitude as their immediate post-event values.

E. Industry donations versus firm donations

Firms in the same industry might have similar policy preferences and donation patterns, so I next examine how much of a firm's response to the Jeffords event is driven by industry donations versus firm donations. I add to the basic regression the donations made by the rest of the firm's industry, that is, the total donations within a 4-digit SIC code, excluding the firm's own donations.[19] The results using abnormal returns are presented in Table 5, column 1. Somewhat surprisingly, the firm's own donations have much more explanatory power than the industry's donations. The coefficient on a firm's own giving to the Republican Party, for example, is the same as seen earlier when industry donation totals were not included. Column 2 shows the results using the change in

[19] The results in this section are similar if an industry is defined as a 3-digit SIC code instead.

market value as the dependent variable. Here, the coefficients for the industry's donations to both Democrats and Republicans are statistically significant. Each dollar donated to the Democrats by the rest of the industry is associated with a $364 gain in market value for a firm, and each dollar to the Republicans is associated with a $262 loss. However, a firm's own donations matter more: the coefficients for the firm's own donations are six to seven times larger than the industry coefficients.

I next examine whether the pattern of soft money and stock market returns holds within industries. Regressions that include fixed effects for each industry are reported in Table 5, columns 3 and 4. With the abnormal return as the dependent variable, there is no apparent relationship within industries. Compared to results without fixed effects, the coefficient for Republican giving is half the magnitude but statistically insignificant. The Democratic coefficient is close to zero and negative. Much of the power in the main results is from between-industry variation in donations and returns. Column 4, where the change in market capitalization is the dependent variable, tells a somewhat different story. The standard errors are large, but the point estimates with fixed effects are similar to the estimates without fixed effects. The Democratic and Republican coefficients are close to each other in magnitude: comparing firms in the same industry, a dollar difference in soft money to Democrats or Republicans corresponds to roughly an $1800 difference in market-value gain or loss upon Jeffords' switch.

Next, I test predictions from basic industrial organization theory about which firms-cum-donors within an industry should be acting only in their own interests versus collectively with other firms in their industry. In particular, we expect that in unconcentrated industries, firms are less able to solve the collective action problem associated with donating as a group, and therefore their donations are more likely to be motivated by firm-specific needs. Thus, there should be a stronger within-industry correlation between donations and stock returns in unconcentrated industries. In addition, firms that are small relative to their industry are less likely to be donating in order to obtain industry-wide benefits since they enjoy a small fraction of such benefits, while firms that are large relative to their industry may find it worthwhile to donate even if the benefits are industry-wide rather than firm-

specific. The within-industry donations-returns relationship should be stronger for firms with a smaller market share.

The comparison of industries based on concentration is presented in Table 5, column 5. The measure of industry concentration is the Herfindahl index based on revenues for all Compustat-listed firms with a given 4-digit SIC code.[20] The interaction terms between the Herfindahl index and soft money are statistically insignificant, but the positive point estimate for soft money to Republicans and negative point estimate for soft money to Democrats are consistent with there being a stronger donations-returns relationship in less concentrated industries. In column 6, I examine how a firm's size relative to its industry affects the relationship between soft money and event-week returns.[21] The coefficient on the interaction of market share and soft money to Republicans is positive, fitting the prediction that firms that are small compared to their industry should have the most negative correlation of Republican giving and event-week stock market returns. However, the Democratic interaction term is also positive and in fact larger in magnitude.

F. Return on investment

Finally, I use the basic results on the market change per dollar of donations to calculate a "return on investment" (ROI) in politicians. I compute the ROI under two sets of assumptions, one in which the purpose of donations is to increase the probability that like-minded politicians get elected, and one in which the purpose of donations is to influence how politicians govern once in office.[22] The goal of the exercise is not to arrive at the exact ROI, but rather to use the different results to infer something about whether donations affect or merely reflect how favorably a party acts toward a firm. This section of the paper should be viewed as substantially more speculative than the preceding sections.

[20] The Herfindahl index is the sum of squares of firm market share (based on revenues) in an industry, using Compustat data for 2000. For the firms in the sample the average (standard deviation) of the Herfindahl index is 0.21 (0.18).
[21] Market share is based on 2000 revenues and uses all Compustat-listed firms in a 4-digit SIC code group. The sample average (standard deviation) for market share is 0.18 (0.23).
[22] Another possibility is that donations are a form of consumption rather than investment for firms. This view is more compelling for individual giving than for corporate giving, however (Ansolabehere et al. 2003).

A dollar in soft money to Democrats or Republicans is associated with about a $2300 gain or loss of market capitalization when Jeffords tipped the Senate, as reported in Table 2, column 3. Converting the coefficients into an ROI requires several assumptions. First, while donations are measured over a single two-year election cycle, the relevant capital investment is more likely donations over a longer period, which I assume to be 10 years (multiply the donation amount by a factor of 5). Second, soft money is not the only type of donation, and in the regression analysis it may be a proxy for all of the resources that a firm spends to influence the political process, including hard money, lobbying, etc. I assume the total resources are 10 times larger than the soft money spending (multiply the soft money amount by a factor of 10).[23]

The two adjustments above suggest that $1 invested in donations corresponds to a $46 change in market value when the Senate changed hands. These numbers do not represent an ROI, however, because the event-week change in market value measures the ex post payoff of the investment, and the relevant value for the ROI calculation is the expected benefit. Donating firms were making a risky investment. If their purpose in contributing was to influence the elections, they would earn a benefit from their donations only if their donations were pivotal in the elections. A firm's last dollar being the deciding factor in the battle for Senate control is presumably exceedingly unlikely. Suppose it were a 0.01% probability event. Donations would earn an ROI of less than 0.5% (46×0.0001). This is likely an overestimate since the true probability is probably less than 0.01%. Moreover, the $46 value used in the calculation averages over all donations; the marginal dollar would have a lower return. This calculation suggests that if donations were aimed at tipping elections, the ROI would be much lower than the cost of capital.[24]

[23] Corporations donated $100 million in hard money and spent $1.3 billion on lobbying for the 2000 elections. I allow for $400 million of additional political spending (e.g., independent expenditures) to arrive at the scale factor of 10. (Firms donated $200 million of soft money during the 2000 election cycle).

[24] There are reasons one might want to scale up the $46 value, but 0.5% probably still overestimates the ROI. A firm may have enjoyed some returns on its investment during the four months the Republican Party held the Senate majority; the market capitalizes only future returns. Soft money is given to assist a party's candidates in other races besides Senate races, and these other politicians provide benefits to a donor. Senators may be helpful to firms even when their party does not have majority control.

In contrast, the ROI from donations would be extremely high if the $46 change were entirely due to donations being half of a quid pro quo. If a firm donates in exchange for favors, it is still making a risky investment, in this case, in the uncertain outcome that the party to whom it donates will be successful in the elections and then provide help to the firm. To arrive at a conservative ROI estimate, suppose that Senators are only valuable to donor firms if their party has majority control. Winning Senate control was 50% likely for either party going into the 2000 elections. Suppose, furthermore, that even if a party prevails in the elections, there is only a 50% chance it will come through with favors for its donors. Combining these assumptions, the naïve return on political contributions would be over 1000% ($46 \times 0.5 \times 0.5$). The ROI might be lower if the likelihood that a party follows through with favors is less than 50% or if, say, a party can only deliver favors effectively if it controls the Senate, House, and White House, but even with added assumptions, the ROI from donations as quid pro quo would likely remain well over 100%. With such a large ROI, the puzzle is why procuring favors is so inexpensive and why firms fail to donate more. One possibility is that donation levels in 2000 were out of equilibrium. It follows, then, that firms should have been responding to the high ROI by increasing the amount they were investing in the political process, which is consistent with the sharp rise in soft money donations around this time.

The most likely resolution of this paradox—the unprofitably low ROI for donations aimed at influencing elections and the extremely high ROI for donations intended as a quid pro quo—is that only a small part of the estimated stock market response to the Jeffords event is due to donations as quid pro quo. For example, suppose that of the $46 change in market value per dollar of donations, 1% were due to donations changing how favorable or unfavorable each party is to the firm, and 99% were due to how inherently aligned the recipient party is with the firm's interests. Then the ROI from donations, where the purpose of donations is to influence politicians' behavior once elected, would be about 12%, a more plausible value than either 0.5% or 1000%. An implicit assumption in this reasoning is that firms target their quid-pro-quo donations at the party more inherently sympathetic to them in the first place, an assumption that seems reasonable.

These ROI estimates are rough. But what the calculations suggest is that to make sense of firms' decision to donate in the first place, yet to not donate considerably more, most of the Jeffords effect would have to be due to firms targeting their donations at politicians aligned with them, but some of the effect would have to be due to donations causing politicians to be helpful to their donor firms.

VII. Conclusion

This paper uses a sudden and large change in political power as a lens for investigating the relationship between politicians and firms—and whether money mediates that relationship. Senator Jeffords' defection from the Republican Party in 2001 reconfigured the political power of the Republican and Democratic Party in the U.S., and this shake-up caused the top 500 public companies to gain or lose a total of over $97 billion in market capitalization. A firm's soft money donations predict how its stock fared the week that Jeffords' defection tipped the Senate: each dollar in soft money donated to the Democrats or Republicans is associated with about a $2300 increase or decrease in a firm's market value in response to the event.

One interpretation of the findings is that soft money is a measure of a firm's political interests. If the stock market independently and rationally assesses which party is more aligned with a firm's interests, then soft money captures the revealed preferences of firms: we can conclude that firms realize which politicians have favorable views and they target their donations accordingly. A second interpretation of the results is that politicians' actions are not fixed, and firms use soft money to gain access or favors. Based on a rough calculation of the return on investment from donations, each interpretation on its own seems implausible. The changes in market value caused by Jeffords' switch appear to be driven by a combination of the two interpretations.

One direction for future research is to use the Jeffords event to try to distinguish empirically between these interpretations, that is, to determine the extent to which corporate donations cause politicians to be helpful to a firm. A signature of donations as quid pro quo would be if firms changed their donation strategy after the Jeffords event—directing more of their hard money donations to the

new Senate Democratic leaders and less to the former Republican leaders, for example. If Jeffords' switch did not significantly change these politicians' prospects in their next election (which in some cases would be five years in the future), a change in donation patterns would be suggestive that firms are attempting to influence politicians' behavior and are focusing on the politicians with the most clout.

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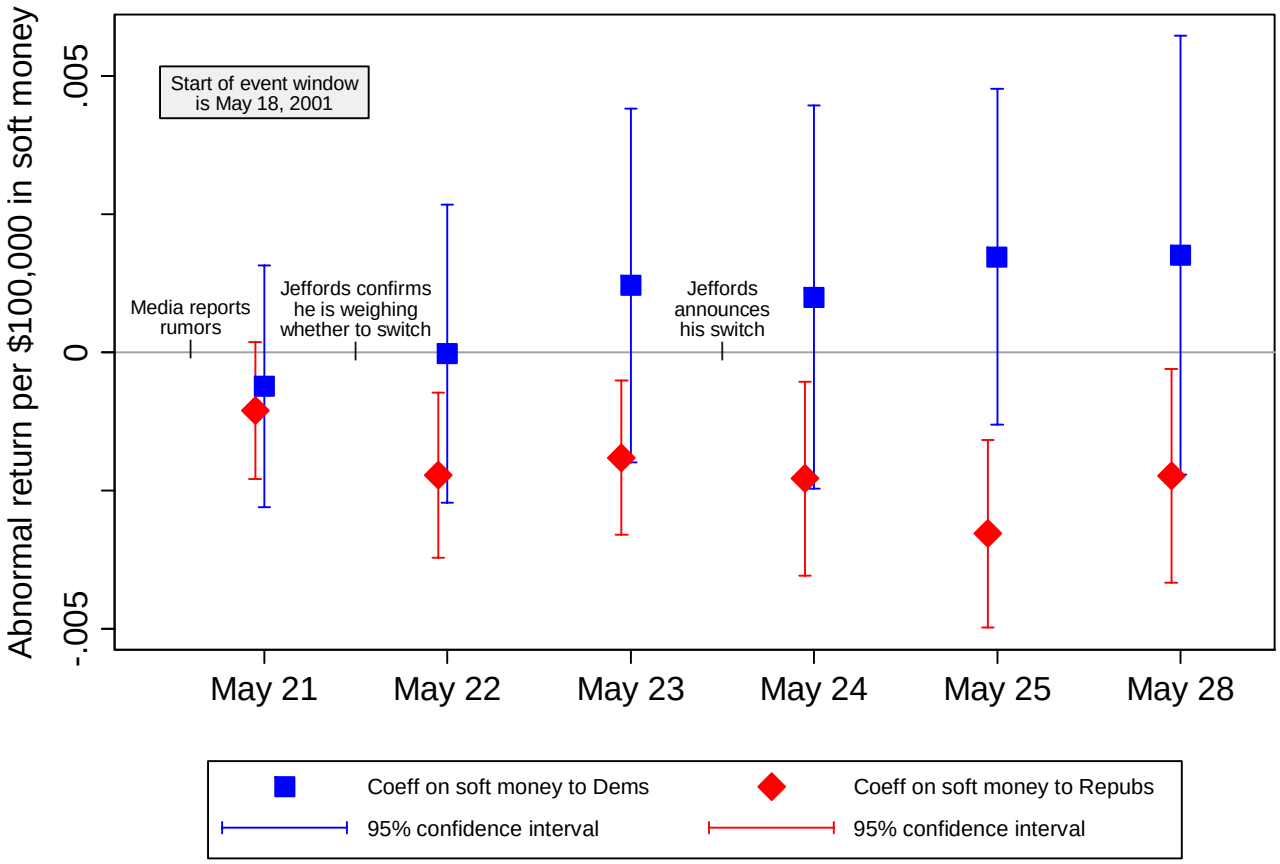
Figure 1:

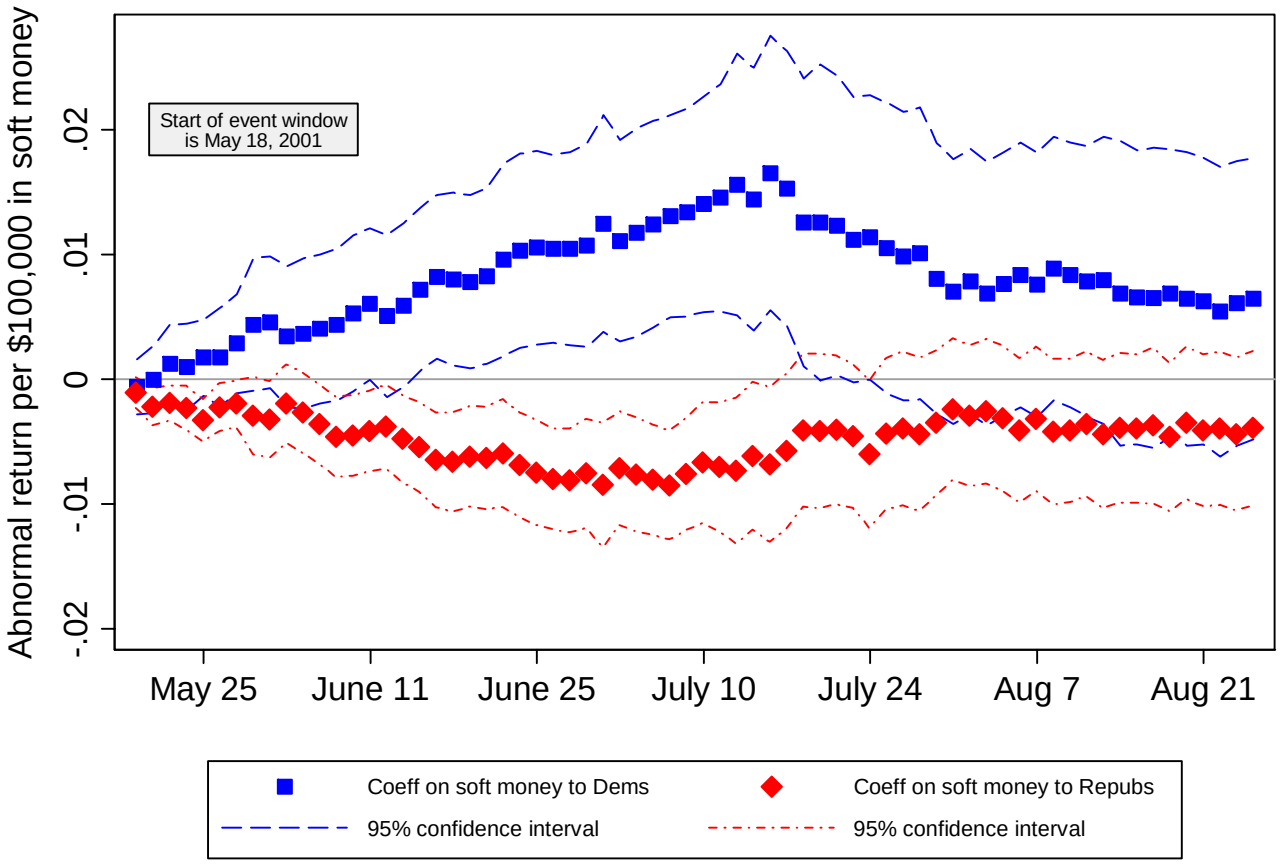
Estimated Relationship between Soft Money Contributions and Stock Market Returns



Note: At each date on the horizontal axis, the figure plots the coefficients on corporate soft money contributions from a linear regression in which the dependent variable is the donor firm's abnormal stock return between May 18, 2001 (pre-event) and that date. For clarity, the Democratic and Republican coefficients for a given date are offset from each other horizontally.

Figure 2:

Longer Time Horizon



Note: At each date on the horizontal axis, the figure plots the coefficients on corporate soft money contributions from a linear regression in which the dependent variable is the donor firm's abnormal stock return between May 18, 2001 (pre-event) and that date.

Table 1: Descriptive Statistics

Variable	Mean	Standard Deviation
PANEL A: FIRM CHARACTERISTICS		
Market capitalization ($ billion)	22.2	42.4
% of firms that are regulated	30%	
PANEL B: SOFT MONEY		
Soft money to Democratic Party	63,235	164,988
Soft money to Republican Party	130,975	273,699
Total soft money donations	194,210	408,317
% of firms with soft money>0	56%	
% of donor firms for whom >2/3 of soft money is to Dems	15%	
% of donor firms for whom >2/3 of soft money is to Repubs	61%	
% of firms with soft money to Dems>0	40%	
% of firms with soft money to Repubs>0	51%	
PANEL C: EVENT-WEEK MARKET ACTIVITY		
Return	-0.002	0.046
Change in market capitalization ($ billion)	-0.20	2.20
PANEL D: MARKET MODEL ESTIMATES		
Estimated beta	0.90	0.92
Estimated alpha	0.001	0.002
R^2 of market model	0.16	0.15
Abnormal return	0.002	0.048

Notes:
N=498 (N=279 for variables conditional on soft money > 0).
Sample is the largest U.S. firms by market capitalization on the Forbes 500 List for 2001.
Regulated companies are those in railroad, public utilities, banking, finance, and insurance industries (2-digit SIC codes 40, 48, 49, 60, 61, and 63).
Soft money donations are for January 1999 to December 2000. Source: Common Cause (2002).
Event week is close-of-day on 5/18/01 to close-of-day 5/25/01.
Return = (Change in stock price during event week)/pre-event stock price. Source: CRSP.
Abnormal return = actual return - expected return. The market model estimates a linear relationship between each firm's daily return and the daily market return (CRSP value-weighted return), using May 2000-April 2001 data, and is the basis for the expected return.

Table 2: Soft Money Contributions & Stock Market Response to Jeffords' Defection

	Dependent variable						
	Abnormal return	Return	Change in market cap	Abnormal return	Abnormal return	Abnormal return	Abnormal return
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Soft money to Dems/$100,000	0.0017	0.0013		0.0022		0.0031*	
	(0.0015)	(0.0016)		(0.0016)		(0.0018)	
Soft money to Repubs/$100,000	-0.0033***	-0.0028***		-0.0033***		-0.0020**	
	(0.0009)	(0.0008)		(0.0008)		(0.0008)	
Soft money to Dems			2219				
			(1637)				
Soft money to Repubs			-2313**				
			(1045)				
Regulated industry (dummy)				-0.0096			
				(0.0070)			
Total donations					0.00003		
					(0.00048)		
Proportion of donations to Dems					0.0199		
					(0.0127)		
No soft money to Dems (dummy)					0.0210**	0.0095	
					(0.0086)	(0.0068)	
No soft money to Repubs (dummy)					0.0109*	0.0139**	
					(0.0058)	(0.0067)	
No soft money to Repubs * Soft money to Dems/$100,000						-0.0025	
						(0.0044)	
No soft money to Dems * Soft money to Repubs/$100,000						0.0021	
						(0.0034)	
Soft money to Dems/Market cap							-8
							(170)
Soft money to Repubs/Market cap							-238**
							(103)
Constant	0.0053	0.0012	6.19E7	0.0080*	-0.0193***	-0.0101**	0.0044
	(0.0036)	(0.0034)	(7.86E7)	(0.0047)	(0.0072)	(0.0044)	(0.0037)
Observations	498	498	498	498	498	498	498
R-squared	0.023	0.020	0.045	0.032	0.059	0.059	0.0168

Notes:
Standard errors that allow for heteroskedasticity and clustering within an industry (4-digit SIC code) are in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%
Dependent variable is cumulative response from end-of-day 5/18/01 to 5/25/01; market model estimated from 5/00 through 4/01.
Dependent variable in column 3 is abnormal return multiplied by market value at the start of the event window.
Soft money donations are for 1999-2000.
In column 4, regulated companies are those in railroad, public utilities, banking, finance, and insurance industries (2-digit SIC codes 40, 48, 49, 60, 61, and 63)

Table 3: Robustness Checks

	Control for mkt cap	Sensitivity to outliers		Different subsamples	
Dependent variable	Abnormal return	Dummy if Abnormal return > 0	Abnormal return	Abnormal return	Abnormal return
Sample definition	Full sample	Full sample	Full sample	No Tech Sector	Donors only
Model	OLS	OLS	Median reg.	OLS	OLS
	(1)	(2)	(3)	(4)	(5)
Soft money to Dems/$100,000	0.0018	0.013	0.0015	0.0016	0.0021
	(0.0016)	(0.019)	(0.0012)	(0.0015)	(0.0016)
Soft money to Repubs/$100,000	-0.0032***	-0.037***	-0.0029***	-0.0032***	-0.0022***
	(0.0009)	(0.009)	(0.0008)	(0.0008)	(0.0008)
Market cap ($billion)	-1.74E-5				
	(5.78E-5)				
Constant	0.0055	0.536***	0.0029*	0.0010	-0.0036
	(0.0038)	(0.040)	(0.002)	(0.0035)	(0.0039)
Observations	498	498	498	423	279
R-squared	0.023	0.030	-	0.030	0.017

Notes:
Standard errors that allow for heteroskedasticity and clustering within a 4-digit SIC code (except in column 3) are in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%
Dependent variable is cumulative response from end-of-day 5/18/01 to 5/25/01; market model estimated from 5/00 through 4/01.
Soft money donations are for 1999-2000.
In column 4, the technology sector is defined as 3-digit SIC codes 357 (Computer & Office Equipment); 367 (Electronic Components & Accessories); and 737 (Computer Programming & Data Processing).
Column 5 excludes firms whose total soft money donation is zero.

Table 4: Different Event Windows

Dependent variable: Abnormal return

	Shorter window			Earlier start of window		Longer window			
Event window	4 days 5/18/01 - 5/24/01	4 days 5/21/01 - 5/25/01	3 days 5/21/01 - 5/24/01	9 days 5/16/01 - 5/25/01	2 weeks 5/11/01 - 5/25/01	2 weeks 5/18/01 - 6/1/01	1 month 5/18/01 - 6/18/01	2 months 5/18/01 - 7/18/01	3 months 5/18/01 - 8/20/01
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soft money to Dems/$100,000	0.0010	0.0024	0.0017	0.0007	-0.0014	0.0046*	0.0080**	0.0126**	0.0064
	(0.0018)	(0.0015)	(0.0014)	(0.0013)	(0.0016)	(0.0027)	(0.0035)	(0.0059)	(0.0060)
Soft money to Repubs/$100,000	-0.0023**	-0.0023**	-0.0013	-0.0032***	-0.0017	-0.0032**	-0.0066***	-0.0041	-0.0035
	(0.0009)	(0.0009)	(0.0008)	(0.0009)	(0.0010)	(0.0016)	(0.0020)	(0.0031)	(0.0031)
Constant	0.0045	-0.0009	-0.0021	0.0064*	0.0108**	-0.0028	-0.0114	-0.0231	-0.0239
	(0.0035)	(0.0038)	(0.0039)	(0.0035)	(0.0053)	(0.0058)	(0.0094)	(0.0155)	(0.0182)
Observations	498	498	498	498	498	498	498	498	498
R-squared	0.014	0.012	0.005	0.023	0.010	0.005	0.010	0.006	0.001

Notes:

Standard errors that allow for heteroskedasticity and clustering within an industry (4-digit SIC code) are in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Dependent variable is cumulative response from end-of-day of the start date of the window to end-of-day of the end date; market model estimated from 5/00 through 4/01.

Soft money donations are for 1999-2000.

Table 5: Own versus Industry Donations & Within-Industry Results

	No fixed effects -- Own vs. industry's giving		Industry (4-digit SIC) fixed effects			
Dependent variable	Abnormal Return	Mkt Cap Change	Abnormal Return	Mkt Cap Change	Abnormal Return	Abnormal Return
	(1)	(2)	(3)	(4)	(5)	(6)
Soft money to Dems/$100,000	0.0015		-0.0002		-0.0002	-0.00200
	(0.0014)		(0.0016)		(0.0029)	(0.0026)
Soft money to Repubs/$100,000	-0.0033***		-0.0016		-0.0022	-0.0017
	(0.0009)		(0.0013)		(0.0020)	(0.0018)
Industry's soft money to Dems/$100,000	0.0004					
	(0.0010)					
Industry's soft money to Repubs/$100,000	-0.00003					
	(0.00038)					
Soft money to Dems		1964		1712		
		(1515)		(2325)		
Soft money to Repubs		-2124**		-1880		
		(918)		(1799)		
Industry's soft money to Dems		363**				
		(184)				
Industry's soft money to Repubs		-262**				
		(101)				
Herfindahl index * soft money to Dems					-0.0005	
					(0.0097)	
Herfindahl index * soft money to Repubs					0.0043	
					(0.0072)	
Market share						-0.0672***
						(0.0224)
Market share * soft money to Dems						0.0088
						(0.0075)
Market share * soft money to Repubs						0.0062
						(0.0048)
Constant	0.0042	1.51E8	0.0043*	3.73E7	0.0038*	0.0144***
	(0.0035)	(1.20E8)	(0.0023)	(1.36E8)	(0.0023)	(0.0046)
4-digit SIC code fixed effects?	No	No	Yes	Yes	Yes	Yes
Observations	498	498	498	498	498	498
R-squared	0.026	0.056	0.53	0.40	0.53	0.54

Notes:
Standard errors that allow for heteroskedasticity and, in columns 1 and 2, clustering within an industry (4-digit SIC code) are in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%
Dependent variable is cumulative response from end-of-day 5/18/01 to 5/25/01; market model estimated from 5/00 to 4/01.
Market share is (firm revenues/industry revenues) for 2000. An industry is a 4-digit SIC code. SIC codes and revenue data are from Compustat. All Compustat-listed firms in the industry are used to calculate industry-level variables.
Herfindahl index = sum of squares of firm market share for an industry (4-digit SIC code).