

Party Influence in Congress and the Economy

Erik Snowberg
Stanford GSB

Justin Wolfers
Wharton—University of Pennsylvania
CEPR, IZA and NBER

Eric Zitzewitz
Stanford GSB

snowberg@stanford.edu
www.stanford.edu/~esnowber/

jwolfers@wharton.upenn.edu
www.nber.org/~jwolfers

ericz@stanford.edu
<http://faculty-gsb.stanford.edu/zitzewitz>

Abstract

To understand the extent to which partisan majorities in Congress influence economic policy, we compare financial market responses in recent midterm elections to Presidential elections. We use prediction markets tracking election outcomes as a means of precisely timing and calibrating the arrival of news, allowing substantially more precise estimates than a traditional event study methodology. We find that equity values, oil prices, and Treasury yields are slightly higher with Republican majorities in Congress, and that a switch in the majority party in a chamber of Congress has an impact that is only 10-30 percent of that of the Presidency. We also find evidence inconsistent with the popular view that divided government is better for equities, finding instead that equity valuations increase monotonically, albeit slightly, with the degree of Republican control.

Keywords: Prediction markets, event studies, Congressional elections, political parties

JEL codes: H00, G13, G14

This Draft: November 30, 2006

The authors would like to thank Keith Krehbiel, Marc Meredith and Betsey Stevenson for useful comments, John Delaney of Tradesports for providing data, and Bryan Elliott for programming assistance.

How important is the majority party in Congress in shaping the broad contours of economic policy? Different theories of legislative policymaking yield strikingly different predictions. In cartel theories of party power (Cox and McCubbins 2002, 2005), the majority party leadership controls the agenda, and uses their power to move policy towards the preferences of the median member of the majority party. The median Democrat and the median Republican are likely to have sharply different preferences, so switches in the majority party may have large effects on expected economic policies. In contrast, if the party label chosen by a legislator is only a rough description of preferences in a policy space (as in Krehbiel, 1993) policy will be determined by the median legislator. Elections that change the majority party rarely move the preferences of the median representative by much, so elections are unlikely to have much effect on expectations about economic policy.¹

Using the approach developed in Snowberg, Wolfers and Zitzewitz (2007), we precisely estimate financial market responses to changes in the majority party in Congress. Specifically, we analyze the response of equity, currency, oil and bond prices to sharp changes in the probability that each party would gain a Congressional majority in the 2006 midterm elections. We measure these political shocks using high-frequency prediction market data, and focus on the period when the vote count was underway (and hence after votes were cast), thereby isolating a period in which the link between political and economic expectations reflects only the influence of changing electoral expectations on expectations about economic policy.² Comparing these new estimates of the effects of changes in Congressional majorities to our earlier estimates of the effects of a switch in the party of the President, we find that changes in the majority party in Congress yield *substantially* smaller effects. We also find evidence inconsistent with the popular conception that markets prefer the President and a majority of Congress to be from different parties.³ Since this notion is premised on divided control resulting in lower legislative productivity, our result is consistent with the findings in Mayhew (1991).

¹ It is possible to construct examples where the floor median moves more than the median of the majority party when party control switches, but such an example requires extremely high levels of legislator turnover—much higher than the level observed in Congress.

² For an in-depth discussion of our methodology see Snowberg, Wolfers and Zitzewitz (2007), particularly the discussion of the importance of using instrumental events such as election night to infer causation.

³ John Tierney (*New York Times*, 11/14/06) provided a particularly clear articulation of this view, claiming “The prospect of gridlock has been welcomed, as usual, on Wall Street.” Tierney went on to equate divided party control with gridlock, a view that may be construed as an extreme form of the cartel theory of parties. Research by Alesina and Rosenthal (1995), and Chari, Jones and Marimon (1997) suggests that divided control leads to policy moderation.

The 2006 Election

In the run-up to the 2006 Congressional elections, Tradesports.com created two contracts tied to Republican majorities in Congress: one paid \$10 if Republicans maintained a majority in the Senate, the other \$10 if they maintained a majority in the House. As illustrated in Figure 1, the House contract traded at \$2 at the beginning of election night, suggesting that Republicans had a 20% chance of maintaining their majority in the House.⁴ At 5 p.m. EST exit poll data indicating a poor showing by Republicans became available. As actual vote tallies provided confirmatory evidence of a Republican loss, this probability slowly declined to zero. In contrast, the probability of Republicans retaining a majority of Senate seats began election night at approximately 70% and fluctuated substantially. The release of early vote counts in Virginia and Missouri, which put Republican Senators Allen and Talent in the lead, caused this probability to rise to 90%. A few hours later, as both Allen and Talent fell behind, the probability of Republicans maintaining a majority plummeted.

In order to quantify the economic effects of partisan majorities in Congress, we pair prediction market data from Tradesports.com with the price of the last transaction in the same 30-minute period for the December 2006 futures contract of various financial variables.⁵ We then regress the changes in financial variables on the change in the price of the contracts tracking the Republican's chances of maintaining majorities in both houses of Congress:⁶

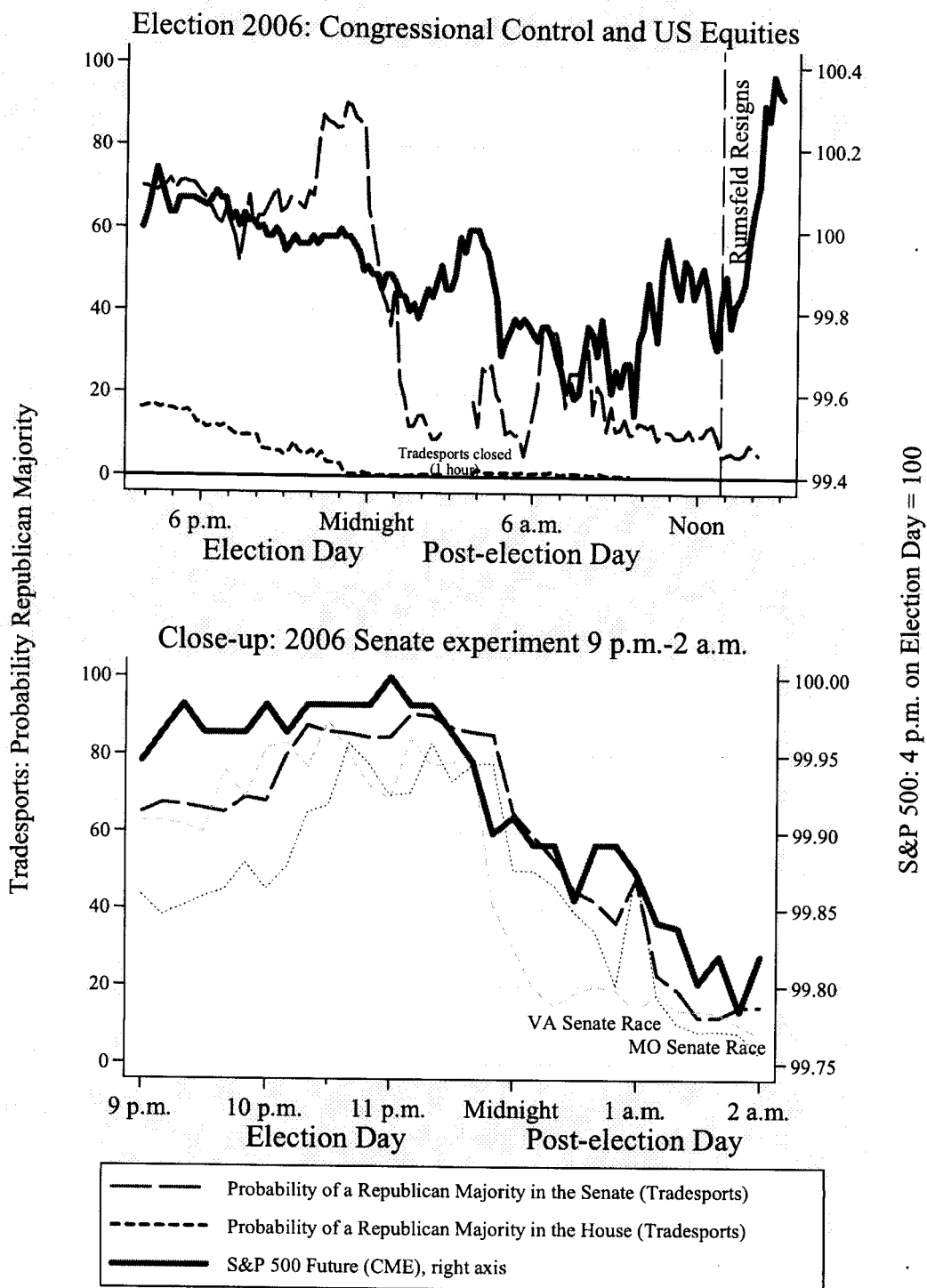
$$\Delta \text{Log}(\text{Financial variable}_i) = \alpha + \beta \Delta \text{Pr}(R \text{ majority in Senate})_i + \gamma \Delta \text{Pr}(R \text{ majority in House})_i + \varepsilon_i \quad (1)$$

⁴ Wolfers and Zitzewitz (2006) show that for realistic parameters regarding the risk aversion of traders, prediction market prices can be interpreted as a measure of the central tendency of beliefs about the probability of an event. Given the small covariance between the political contracts we analyze and aggregate financial asset values, any difference between price and probability due to hedging is extremely small.

⁵ Specifically, we analyze the near-month Chicago Mercantile Exchange (CME) S&P 500, Nasdaq 100, Euro, Yen, and Canadian Dollar futures, and the Chicago Board of Trade (CBOT) Dow Jones Industrial Average (DJIA) and 2 and 10 year Treasury Note futures. We analyze futures rather than the actual indices because only the futures are actively traded in the period after regular trading hours. The need to analyze data after the main U.S. markets closed constrains the set of financial variables we can analyze.

⁶ In order to control for heteroskedasticity introduced by missing observations, we implement weighted least squares, and use White (1980) standard errors. A Scholes-Williams (1977) specification, which corrects for potential bias due to asynchronous trading, produced similar results. Using 60-minute first-differences produced similar coefficients, but larger standard errors. Estimating (1) for the House or Senate separately does not alter the results. Finally, adding contracts that control for the expected number of seats in each house does not affect the results.

Figure 1



The coefficients reported in Table 1 can be interpreted as the change in each financial variable associated with a change of Congress from majority Democrat to majority Republican. Panel A shows the results from the 2006 midterm elections.

Table 1

Dependent Variable:	$\Delta \text{Log}(\text{Price}) * 100$					$\Delta \text{Price} (\$)$	$\Delta \text{Yield} (bp)$	
	S&P 500	Nasdaq 100	Japanese Yen	Euro	Canadian Dollar	Oil	2 Year T-Note	10 Year T-Note
Panel A: Congressional Elections, 2006								
$\Delta \text{Pr}(\text{Senate})$	0.174* (.089)	0.156 (.101)	0.025 (.045)	0.087 (.061)	0.022 (.045)	0.034 (.079)	0.918 (1.15)	0.701 (.693)
$\Delta \text{Pr}(\text{House})$	0.537 (.729)	-0.017 (1.11)	0.015 (.707)	-0.450 (.634)	0.553 (.687)	-0.209 (.893)	-1.31 (6.54)	-2.11 (6.09)
n	30	29	28	28	28	30	26	27
Panel B: Congressional Elections, 2002								
$\Delta \text{Pr}(\text{Senate})$	0.593** (.231)	0.728 (.419)	-0.196 (0.187)	0.011 (.127)	0.071 (.068)	0.148** (0.060)	4.51* (1.81)	2.21* (1.02)
n	13	12	13	13	12	14	7	7
Panel C: Presidential Elections, 2004								
$\Delta \text{Pr}(\text{President})$	2.05*** (.503)	2.40*** (.814)	-0.531* (.296)	-0.694* (.358)	-0.488** (.221)	1.706** (.659)	10.8*** (3.58)	12.0*** (4.65)
n	35	35	34	34	34	29	30	31

Notes: ***, **, * denote statistically significant at 1%, 5% and 10%, respectively. (White (1980) standard errors in parentheses.) The sample period for 2006 is four p.m. Eastern Time on 11/7/2006 to nine a.m. on 11/8/2006, for 2002 it is four p.m. on 11/5/2002 to midnight on 11/6/2002. Election probabilities are the most recent transaction prices collected every thirty minutes from Tradesports.com. When there are missing observation, and the bid and ask prices are within 10 percentage points of each other, we use the bid-ask average. Currency, S&P and Nasdaq futures are from the Chicago Mercantile Exchange; Dow and bond futures are from the Chicago Board of Trade. All futures have delivery dates of December 2006, December 2004 and December 2002, respectively. Yields are calculated for the Treasury futures using the daily yields reported by the Federal Reserve for 2 and 10-year Treasuries and projecting forward from the bond market close at 3 pm using future price changes and the future's durations of 1.96 and 7.97 reported by CBOT. Presidential data is from Snowberg, Wolfers and Zitzewitz (2007).

The estimated effect of a change in the majority party in the Senate on the S&P 500, 0.17%, while statistically significant, is an order of magnitude smaller than the effect of a change in the party of the President in the 2004 election (Panel C). The effect of partisan majorities in the Senate on other financial variables is precisely estimated, and statistically indistinguishable from zero. The relative importance of Congress and the President to the economy is further underscored by the fact that the largest event in our financial data is a 0.6% rally in the S&P 500

(and other equity indices) following the 1 p.m. EST resignation of Secretary of Defense Donald Rumsfeld (Figure 1).⁷

In contrast to our Senate results, the effects of partisan majorities in the House are imprecisely estimated reflecting the fact that the election outcome—a Democratic majority—was widely expected, yielding little election-night variation. Even so, these estimates, while statistically indistinguishable from either zero or the corresponding Senate estimates, are clearly smaller than the effects of a change in the party of the President.

We can be much more precise about the effects of the Senate majority due to the large shifts in election probabilities during a time of night that was free of other news. The bottom panel of Figure 1 illustrates the close link between the stock market and the Republican's fluctuating electoral fortunes between 9 p.m. EST on election day and 2 a.m. the day after. During this period, the probability of a Republican majority in the Senate first rose from 60% to 90% and then plummeted to 10%, and the value of the S&P 500 moved in lockstep with the Tradesports contract. This high correlation drives the precision of our estimates, while the relatively small size of the equity price movements through this period explains the small estimated effect. This example also illustrates an advantage of using prediction markets in event studies—they allow us to isolate periods in which political news is the dominant force financial markets.⁸

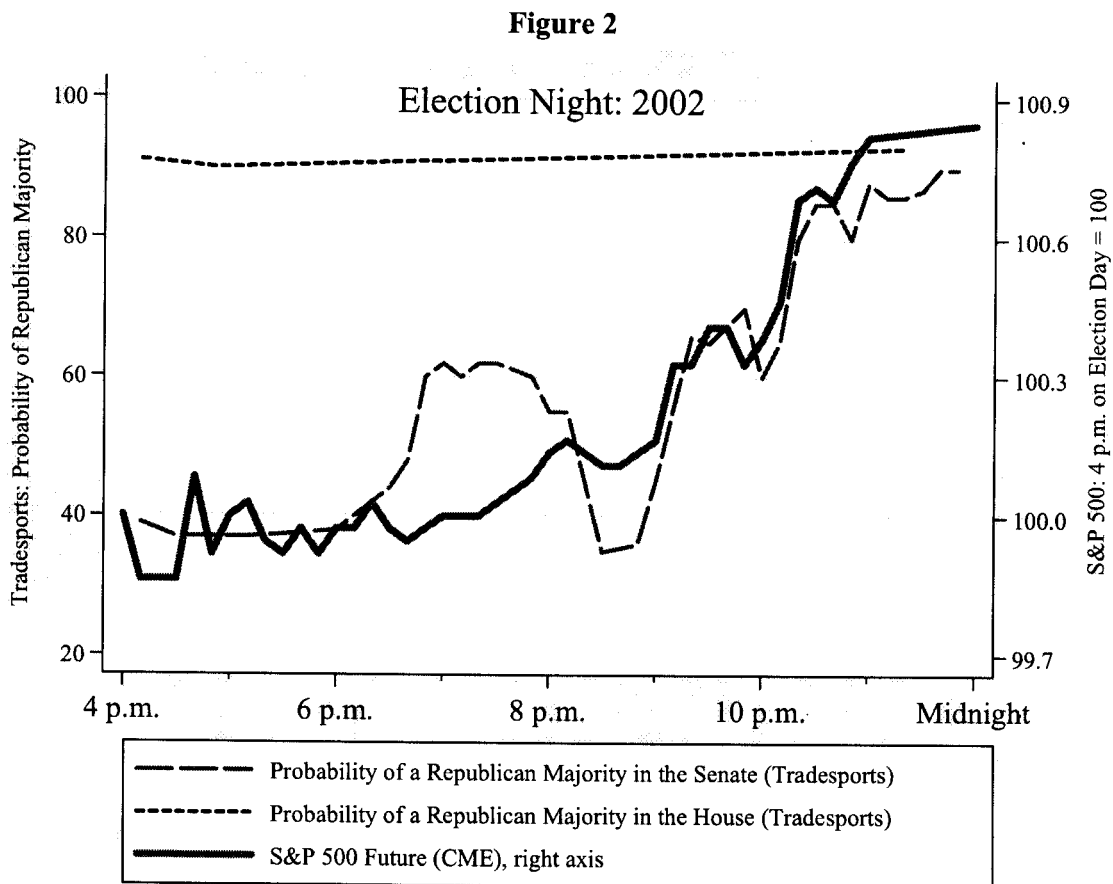
Over this period the likelihood of a Republican majority in the Senate was largely determined by the probability of Republican wins in Virginia and Missouri. Thus, the associated decline in equity prices may be due either to the small change in the preferences of the median Senator, or the change in the majority party, or both. Even if the equity response is driven entirely by the change in the majority party, this is not strong support for cartel theories. If party nominees for President are elected by the respective medians of their parties, then our corresponding estimates from the 2004 Presidential election provide a rough basis for comparison. The relatively small size of the Congressional party effect indicates that Congressional majorities have little control over economic policy.

⁷ The price of a related Tradesports contract just prior to Rumsfeld's resignation suggests that markets had already priced in a 40% chance of him resigning before the end of 2006.

⁸ Estimating equation (1) using only the 9 p.m.-2 a.m. period produces almost identical estimates as the longer-window regressions in Figure 1, but with smaller standard errors.

Previous Elections

We now turn to analyzing related information from prior mid-term elections.⁹ The 2002 election is the only other midterm election where we have access to high frequency data from a liquid prediction market. Our Tradesports data suggest that on election night 2002, Republicans had a 90% chance of maintaining their majority in the House and a 40% chance of gaining a majority in the Senate.¹⁰ Over the course of election night these election probabilities increased as Republicans won a majority of both chambers (Figure 2).



⁹ The effects of the Presidency are so large as to dominate election-night news, hampering our attempts at learning more about Congressional effects from anything other than midterm elections.

¹⁰ Senator Jeffords' defection to the Democrats in 2001 had robbed the Republicans of their earlier majority.

Unfortunately for our purposes, the outcome for the House was so close to expectations that there is no useful election-night variation in this contract to analyze. The Tradesports market for the House was also extremely thinly traded. Thus, in Table 1 we present a formal analysis of the 2002 election, but focus only on the Senate race.¹¹ Fortunately there is sufficient variation to allow us to make useful, albeit somewhat imprecise estimates of the effects of winning a Senate majority. Once again we find statistically significant evidence that the identity of the majority party affects financial markets. The estimated effects are again significantly smaller than the effects of the party of the President, albeit slightly larger than the effect of Senate control in 2006.

The 1998 midterm election was—unfortunately for our purposes—largely a foregone conclusion, with the Iowa Electronic Markets correctly projecting the continuing Republican majorities with a 90% probability.¹²

The 1994 midterms provided some big surprises, and hence some useful experiments. On the night before the 1994 election, data from the Iowa Electronic Market suggested that Republicans had a 70% chance of gaining a majority in the Senate, and only a 20% chance of taking the House. A search of newswire reports from election night 1994 reveals that there was little information about outcomes released before 4 p.m. EST, and that both chambers were called for the Republicans by 11 p.m. EST. Over this seven hour event window the S&P 500 steadily rose (Figure 3), yielding a total gain of 0.40% (standard error = 0.29%); oil prices rose \$0.26 (\$0.07), the price of the Yen rose 0.17% (.18%), the price of the German Mark (the major European currency before the Euro) rose 0.20% (.17%) and the 10 year Treasury note yield was unchanged.¹³ While some of these shifts are statistically significant, scaling these shifts by the corresponding electoral surprise (combining both the effects of a largely surprising Republican House victory and an expected Senate victory), we are again led to conclude that the party of the

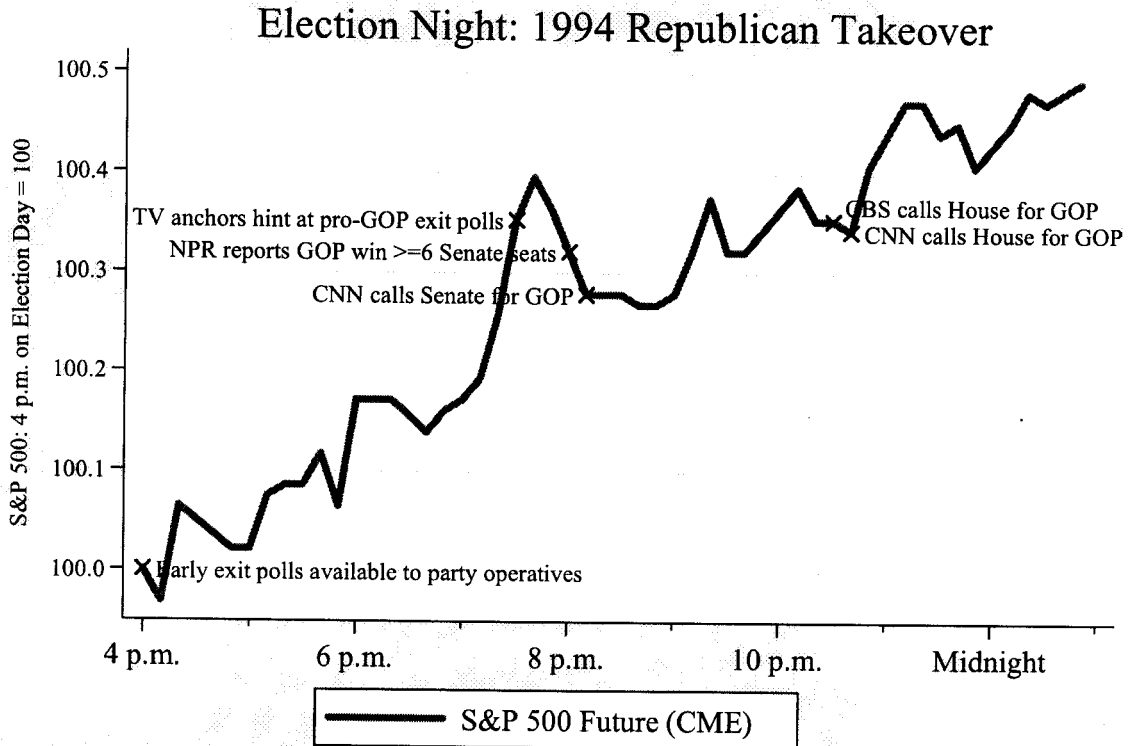
¹¹ Including data from the House race as a control does not change our estimates.

¹² The Iowa Electronic markets ran contracts on Congressional majorities in both 1998 and 1994, but we have access only to the daily closing prices, rather than high-frequency price data we used in 2002 and 2006.

¹³ Standard errors (in parentheses) are the standard deviation of changes in these variables over 4-11 p.m. EST for 50 weekdays before and 50 weekdays after the election. This yields a standard error identical to what one would obtain from a traditional event study approach of regressing daily 4-11 PM EST returns on an election night dummy. There was almost no overnight trading activity in the Canadian Dollar and 2 year Treasury note in 1994.

majority in Congress has smaller effects on these financial prices than the party in the White House.¹⁴

Figure 3



Note: Timing of info reflects press reports. (Intraday prediction markets were unavailable to track electoral shocks.)
 Election eve: Prob. GOP House majority = 20%; Prob. GOP Senate majority = 70%

Finally, Jayachandran (2006) examined a related experiment: the May 2001 defection of Vermont Senator James Jeffords from the Republicans, which switched the majority party in the Senate from the Republican to Democrat. While Jayachandran's approach differs from ours, her calculations yield roughly consistent magnitudes: she estimates that this unexpected switch in partisan majorities in the Senate resulted in a decrease in the equity value of the average company that donated to Republicans of 0.4% and an increase in the value of the average company that donated to Democrats of 0.1%.

¹⁴ Given the stronger historical incumbency advantage for Congress than for the Presidency, one might expect a Congressional election outcome like 1994 to have longer lasting implications for partisan control than a Presidential election outcome, and thus our comparison may overstate the relative near-term impact of Congress.

Discussion

In order for partisan majorities in Congress to have an effect on economic outcomes, the parties must both have different preferences over economic policy, and the ability to implement their preferred policy once in the majority. The evidence in Snowberg, Wolfers and Zitzewitz (2007) establishes that financial prices respond strongly to whether the President is a Democrat or a Republican, suggesting that the parties do indeed have different preferences over economic outcomes.

Yet while we document evidence that equity prices and bond yields rose in response to news of Republican majorities in the House and Senate (1994, 2002), and fell in response to the Democratic majorities established in 2006, these effects were uniformly small, and substantially smaller than responses to news about changes in the party of the President. Thus we conclude that the majority party in Congress has relatively little control over economic policy, at least as it affects equity, bond, oil and currency prices. This may be because parties in Congress have little power over how their members vote on economic policy, or because Congress is weaker than the President in determining economic policy. This is not to deny an important role for Congress, but simply to note little evidence of influence on economic aggregates. It is worth considering this result jointly with Jayachandran's (2006) evidence that parties in Congress may have important distributional effects, shuffling benefits between constituent groups.

Finally, our data can speak to the popular perception that markets prefer divided government to unified control by either party. For instance, the equity market fell in response to Democrats winning a House majority in 2006, despite the fact that this result also created divided government. Similarly, in 2002, the equity market rose in response to the Democrats' losing their Senate majority, which eliminated divided government. This suggests that the response of markets to the Republican victory in 1994 more likely reflects a preference for Republican control than divided government. All told, any value markets place on divided versus unified government must be very small in comparison with the already inconsequential amount they prefer Republican to Democratic majorities in Congress.

References

- Alesina, Alberto and Howard Rosenthal. 1995. *Partisan Politics, Divided Government and the Economy*. New York: Cambridge University Press.
- Chari, V. V., Larry E. Jones and Roman Marimon. 1997. "The Economics of Split-Ticket Voting in Representative Democracy." *The American Economic Review*. 87:957-976.
- Cox, Gary W. and Mathew D. McCubbins. 2002. "Agenda Power in the U.S. House of Representatives, 1877 to 1986." In David Brady and Mathew D. McCubbins, eds., *Party, Process, and Political Change in Congress: New Perspectives on the History of Congress*. Palo Alto: Stanford University Press.
- Cox Gary W. and Mathew D. McCubbins. 2005. *Setting the Agenda: Responsible Party Government in the House of Representatives*. New York: Cambridge University Press.
- Jayachandran, Seema. 2006. "The Jeffords Effect," *Journal of Law and Economics*. 49:397-426.
- Krehbiel, Keith. 1993. "Where's the Party?" *British Journal of Political Science*. 23:235-66.
- Mayhew, David R. 1991. *Divided we Govern*. New Haven: Yale University Press.
- Scholes, Myron and Joseph Williams. 1977. "Estimating Betas from Nonsynchronous Data." *Journal of Financial Economics*. 5:309-327.
- Snowberg, Erik, Justin Wolfers and Eric Zitzewitz. 2007. "Partisan Impacts on the Economy: Evidence from Prediction Markets and Close Elections." Forthcoming, *The Quarterly Journal of Economics*.
- White, Halbert. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity." *Econometrica*. 48:817-838.
- Wolfers, Justin and Eric Zitzewitz. 2006. "Interpreting Prediction Market Prices as Probabilities." *Mimeo*. University of Pennsylvania.