When Talk Isn't Cheap: The Corporate Value of Political Rhetoric*

Art Durnev, Larry Fauver, and Nandini Gupta

December 2013

Abstract

Does political rhetoric matter for firms and investors? We conduct a textual analysis of all 388 gubernatorial "State of the state" speeches given between 2002 and 2010 across U.S. states, to examine this question. Political speeches may reduce policy uncertainty (eg. Pastor and Veronesi, 2012), reflect the politician's views regarding the economic future of the state, and contain new information regarding future policies that affect the business environment. Using data on 5,721 firms matched based on their location of their headquarters and main operations, we undertake an event study examining the market reaction to the tone of the State of the state addresses, and also changes in their investment and employment decisions. Controlling for speech, firm, and state-level characteristics, the results show a statistically significant and positive association between the level of optimism expressed in a Governor's speech, and the abnormal returns of firms headquartered in that Governor's state. We also find that a more optimistic gubernatorial speech is associated with a statistically significant increase in investment and employment, relative to firm size, whereas a more pessimistic speech is associated with a decline in investment and employment for firms located in that state. To establish identification, we show that the results are robust to identifying the geographic focus of firms' operations, using a matched sample of firms located in neighboring states as a control group, and instrumental variables. To identify channels by which the content of the speech may have an impact, we show that firms that obtain state-government contracts, and those that are more dependent on skilled human capital and therefore education spending, significantly increase investments if the budget-related and education-related parts of the speech are more optimistic. We also find that political rhetoric is most informative during periods of economic uncertainty, when government policy has had a greater impact.

Keywords: Textual analysis, political speech, firm investment, event study.

* Art Durnev is at the Henry B. Tippie College of Business, University of Iowa, artem-durnev@uiowa.edu; Larry Fauver is at the University of Tennessee, lafauver@utk.edu, and Nandini Gupta is at the Kelley School of Business, Indiana University, nagupta@indiana.edu. We thank participants in the finance department brown bag seminars at Indiana and Iowa, tMaurer School of Law, Indiana University, CICF Conference, Shanghai, China, and, CAF Summer Conference, Indian School of Business, Hyderabad, India.

"Political language -- and with variations this is true of all political parties, from Conservatives to Anarchists -- is designed to make lies sound truthful and murder respectable, and to give an appearance of solidity to pure wind.

- "Politics and the English Language," George Orwell, 1946.

Introduction

Are political speeches simply uninformative cheap talk, ignored by market players, or might they contain information that is useful to investors and firms?[1] Describing Governor Eliot Spitzer's first State of the state address, *The New York Times* noted, "While some of the proposals were outlined during his campaign, in his speech to lawmakers he offered several new initiatives and promised to accomplish others during his first year in office," ("Spitzer requests sweeping array of new measures," January 4, 2007). In this paper, we investigate whether political speech has an impact on investors, as well as the real investment and employment decisions of firms.[2]

Political speeches may reduce policy uncertainty about future government actions, which can be particularly informative during periods of economic uncertainty, such as the recent financial crisis. In particular, Pastor and Veronesi (2012) argue that political news, indications of what governments might do, should affect stock prices, especially in weak economic conditions.[3] The tone of a political speech may also reflect politicians' views regarding the economic future of the state. Or, as argued by George Orwell, political speech may simply be empty rhetoric

[1] For example, the share prices of large pharmaceutical firms increased after President Bill Clinton's announcement for a reduction in price controls in the drug industry on January 28, 2000, while the Dow fell 2.6% on that day (*MarketWatch* January 24, 2011).

[2] An article in the *Wall Street Journal* ("History of Market Responses to the State of the Union," January 24, 2011) noted, "Gerald Ford wasn't known as a particularly great communicator. But whatever his reputation for awkwardness, each of Ford's three State of the Union addresses to the nation was rewarded by the stock market the following day."

[3] Controversy regarding the role of "political intelligence firms" and their ability to trade on confidential information about government policy spurred legislative efforts to regulate these firms, albeit unsuccessfully, in the Stop Trading on Congressional Knowledge (STOCK) Act of 2012, and led to a 2013 investigation by the Government Accountability Office.

designed for political impact without economic content, or may reflect information that is already known to investors and firms.

Using a hand-collected unique sample of 388 "State of the State" addresses between 2002 and 2010, we examine the response of investors and managers of firms to the speeches given by governors of the states in which the firms are located. We use a textual recognition methodology to describe the tone and content of the speech, which categorizes a speech's language according to expressions of "Optimism", "Pessimism", "Certainty", and "Activity". Optimism reflects language endorsing some person, group, or event, or highlighting positive entailments; pessimism captures words reflecting blame, hardship, and denial; certainty captures language indicating resoluteness, tenacity, and infallibility; and, activity captures language describing tangible, immediate, recognizable matters that affect people's everyday lives.[4] Further, we also identify the budget-related and education-related sections of each State of the state address and use it in our analysis.

We observe data on all 5,721 firms in Compustat observed between 2002 and 2010, and match firms to gubernatorial State of the State speeches, based on the location of the headquarters of firms. To investigate whether political speech is informative for investors, we use an event study approach and examine the 3-day and 7-day average abnormal returns across all firms headquartered in a state around the speech date. We also use firm-level data to examine the relationship between the tone of the speech given by the governor of a state and the subsequent investment and employment decisions of firms located in that state.

[4] On January 24, 2005, Governor Kenny Guinn of Nevada's speech opened as follows: "I am proud to report that the state of our state is strong ... very strong. Our gaming and tourism industries have rebounded strongly." In contrast, Governor Mark Warner of Virginia on January 14, 2004: "Since we met in this chamber a year ago, our nation and our Commonwealth have faced many challenges. Tonight, many of those challenges continue."

The results suggest a significant market response to the tone of the political speech. Specifically, the results indicate a statistically significant and positive relationship between the level of optimism expressed in a State of the State speech and the average abnormal returns across firms headquartered in that state. For example, if a governor uses ten more words that are classified as optimistic (per 500 words), the 3-day abnormal returns around the speech date for firms located in the state increase by 16 basis points, where the average 3-day abnormal returns around the speech date for the sample is -31 basis points. In contrast, investors do not appear to respond to a speech characterized by more pessimistic language. We also find that speeches characterized by greater certainty are associated with an increase in abnormal returns. Further, the results suggest that more optimistic speeches that are either more certain, or more active, are also associated with an increase in the 3-day abnormal returns around the speech date. These results are robust to controlling for firm size, speech length, per capita GDP, growth rate, and unemployment at the state-level.

Examining the effects of political speech on managerial decisions, we use data at the firm-level and find that firms respond to the tone of a State of the State speech by changing their investment and employment decisions in the following year. Specifically, the results suggest that a one standard deviation increase in optimistic words (ten words per 500 words) in a State of the State speech is associated with a statistically significant increase of 6% in investment as a proportion of assets, for firms headquartered in that state. In contrast, a one standard deviation increase in pessimistic words (ten words per 500 words) used in the speech is associated with a decrease of 4% in investment. A similar response is observed for employment, with a statistically significant increase of 5% in employment in response to a one standard deviation increase in optimistic tone, and a 14% decline in employment in response to a more pessimistic speech, for

firms headquartered in that state. We observe that more optimistic speeches that also express more certainty and activity are associated with a significant increase in investment and employment for firms located in that state. Note that these results control for firm and year fixed effects, and firm, speech, and state-level characteristics.

We address the concern that the tone of the political speech and firm decisions may be correlated with unobservable factors, such as unobserved expectations regarding future economic conditions, in a number of ways. First, we adopt a novel "neighboring states" difference-in-difference methodology, using firms located in a neighboring state as a control group. Based on the argument that neighboring states are subject to similar economic conditions, observed differences in responses of firms located in neighboring states in response to a political speech in their state are likely to be driven by differences in the speeches rather than by differences in unobserved future economic conditions between the states. Using this methodology, we find that compared to a firm located in a neighboring state, firms located in a state where the governor gives a more optimistic speech experience a greater increase in investment, employment, and abnormal returns in response to the speech. We also use an instrumental variable approach, using state-federal political party disparity as an instrument for the tone of the speech. The results remain robust to treating political speech as endogenous.

Second, to investigate the channels by which firms respond to the information contained in gubernatorial speech, we consider the interaction between tone of the speech and firm-level characteristics. Specifically, for this part of the analysis, we focus on the part of the State of the state speech that mentions the state's budget, government contracts, and education policy. First, since firms whose operations are concentrated in a given state may be more affected by that state's budget, we identify the geographic focus of companies based on the proportion of times a

particular state is mentioned in their 10K reports (see Garcia and Norli, 2012; Cohen et al., 2011). Firms with 50% or more of their operations in one state are identified as "Focused". Second, firms that depend more on government contracts may also respond more to information about the budget and government contracts, hence we identify firms that belong to industries that obtain more government contracts. Third, we identify firms that hire more high skilled workers, as these firms may be affected more by state-level education policies. Focusing on the tone of the speech that mentions the state's budget and government contracts, the results show that companies that are more geographically focused, and depend more on government contracts, are more likely to increase their investment and employment in response to a more optimistic speech by the governor of their state. Focusing on the tone of the speech that mentions education, we find that firms that depend on more high-skilled labor, significantly increase investment and employment in response to a more optimistic speech.

To establish that political rhetoric matters, we also examine the interaction of tone and state level political variables. Specifically, we exploit cross-sectional variation in term limits for governors and years remaining for gubernatorial election. Supporting the hypothesis that political speech contains information about future policies, we find that markets and companies largely discount speeches by "lame duck" retiring governors who face term limits, and will not be setting the policy agenda for the state in the future.

Lastly, our results are consistent with Pastor and Veronesi's (2012) argument that political news matters more during periods of economic uncertainty. Specifically, we show that political speech matters more during the economic crisis. Therefore, political rhetoric has been most informative during uncertain economic conditions, when government policy has had a greater impact.

Our paper is related to studies examining the content of political speech. In particular, Cohen (1995) examines the impact of presidential rhetoric over the public's agenda, and finds that the more attention presidents give to policy areas in their State of the Union Addresses, the more concerned the public becomes with those policy areas; Austen-Smith (1990) considers the informational content of political debates, and finds that debates reveal information about a candidate's policy agenda; Edwards and Wood (1999) find that Presidents call attention to domestic issues through their speeches; Burden and Sandburg (2003) examine presidential campaign rhetoric, and find that emphasis on a particular issue depends on the budget and the importance given to the issue by voters; Druckman and Holmes (2004) find that Presidential rhetoric can be used to improve approval ratings; Eshbaugh-Soha and Peake (2005) find that Presidents may use public speeches to exert some influence over economic policy, but that Presidential attention is mainly in response to media attention; Coffey (2005) examines state governor ideology by examining the content of gubernatorial addresses; and Canes-Wrone (2001) shows that public appeals by U.S. Presidents may be useful in influencing public opinion, and thereby the policy agenda. For the most part, this literature concludes that politicians' speeches are more likely to reflect what is already of concern to the electorate, rather than change their focus. Our results suggest that political speech may also contain new information that is directly of interest to firms and investors.

Lastly, our study contributes to a growing literature on the politics of finance. For example, the literature on political connections shows that such connections add value to firms (Roberts (1990), Fisman (2001), Khwaja and Mian (2005), Faccio (2006), Faccio, Masulis, and McConnell (2006), Goldman, Rocholl, and So (2009)). To the best of our knowledge, this is the first paper to show that politicians have valuable information that can be communicated through

political speech, and to examine the impact of political speech on investor reactions and the real decisions of managers.

The paper is organized as follows: Section 1 describes the data, section 2 describes the empirical methodology, section 3 reports the results, section 4 describes results from robustness checks, and section 5 concludes.

1. Data

We collect the text of gubernatorial State of the state speeches from for all 50 states between 2002 and 2010, obtaining a sample of 388 state-year observations. An average speech has 4,360 words. The speeches were obtained from the Pew Center on States. The State of the state address is typically given once each year by the governors of most states before members of the state legislatures. In Texas, North Dakota, Nevada and Montana the speech is not given every year because the legislatures meet every other year, and in other states some governors choose to skip the speech. We observe an average of about 8 speeches per state, with the maximum number of speeches in a state being 9, and the minimum number of speeches equal to 4. On average, there have been about three gubernatorial elections per state during this period, and 36 states have term limits for governors. Table I describes the state-specific political variables and the State of the state speech measures. The average speech length is 4,360 words, roughly 10 pages of regular text. All variables are defined in Appendix A. In Figure 1 we provide a "word cloud" depicting words appearing most frequently in political speeches in 2002 and 2009.

To capture the tone of the speech, we use a statistical software package known as DICTION 6.0, a computer-aided text analysis program that uses a series of dictionaries to search for five semantic features - Activity, Optimism, Certainty, Realism and Commonality, as well as thirty-five sub-features. We focus on the first three. DICTION conducts its searches via a

10,000-word corpus and any number of user-created custom dictionaries for particular research needs. All terms in this dictionary are adjectives.

Panel B of Table I describes the variables used to define the tone of the political speeches. Our first measure of tone, *Optimism*, reflects language endorsing some person, group, concept or event, and/or highlighting their positive accomplishments. This variable may capture the positive policy agenda of the governor. The variable is calculated as the number of words per 500 words of text that express praise, satisfaction, and inspiration. For example, words like successful would reflect "praise", pride would reflect "satisfaction", and, patriotism would reflect "inspiration". The variables are defined comprehensively with the search terms in Appendix I. On average, per 500 words of text, the number of optimistic words in a speech equal about 22.

Pessimism, calculates the number of words reflecting blame, hardship, and denial, per 500 words of text. For example, adjectives such as malicious would be categorized as blame, whereas hardship may be described by words such as unemployment or bankrupt, and denial captures negative contractions or functions, such as the word nothing. On average, speeches have 9 pessimistic words per 500 words of text in our sample. We also define *Net Optimism* as the difference between the number of optimistic and pessimistic words in a speech. We also define the number of words capturing *Certainty*, defined as language indicating resoluteness, inflexibility, completeness and a tendency to speak *ex cathedra*. This variable may measure the determination of the governor to enact his/her policy agenda. Lastly, we define *Activity*, which captures language describing matters that affect people's everyday lives, and may measure the relevance of the speech to firms.

We report the correlations between the political speech variables in Table II. The coefficients suggest that these variables capture different aspects of the speech. Examining the correlation between firm level investment and net optimism over time in Panel D, we find that the correlation coefficient of the two variables is higher between 2008 and 2010, which suggests that political speech may be more informative when there is greater economic uncertainty, and government policy is more critical.

To identify the parts of the speech related to a state's budget and state government contracts, we isolate sentences that contain one of the following keywords: "budget," "finances," "funds," "accounts," "contract," "taxes," "revenues," "income," "expense," "payment," "financing," "financial situation," "bill," "spending," "expenses." We then read these sentences and surrounding sentences (5 words before the sentence and 5 words after the sentence) to confirm that these parts of the speech are indeed related to state budgets and contracts. Diction calculates the number of optimistic and pessimistic words for this part of the speech. We perform a similar search for the parts of the speech that contain keywords related to education. They include: "education," "university," "college," "teaching," "schooling," "schooling," "training," "instruction." We use this information to calculate optimism, pessimism, net optimism for the education related part of the speech.

The average length of the budget-related part of the speech is 615 words. The average length of the education-related part is 486 words. The average value of *Optimism* (number of optimistic words per 500 words of text), *Pessimism* (number of pessimistic words per 500 words of text), and *Net Optimism* for the budget and education related parts of the speech are comparable to those for the entire speech. Specifically, for the budget related part of the speech, for every 500 words of text, the average number of optimistic words is 20 words, pessimistic is

10 words, and net optimism is 10 words. For the education related part of the speech, for every 500 words of text, the average number of optimistic words equals 25, pessimistic words is equal to 15, and net optimistic words is 10.

The firm level data are from Compustat and CRSP. We observe 5,721 firms over 9 years, an average of 114 firms per state. Table III reports the firm level descriptive statistics. We use the following firm-level measures: investment as a fraction of total assets; employment as a fraction of total assets; company valuation measured by q; and, cash as a fraction of total assets. The cumulative abnormal returns over our event windows are calculated using the market model (difference between firm returns and the CRSP equally weighted returns). We observe that the average 3-day announcement returns around the speech date, for the entire sample of states and years, is -1.7%.

We collect data on state-level variables, including state-expenditures, state-level GDP, GDP growth, and unemployment rate, from the Bureau of Economic Analysis. We describe these data in Panel C of Table I.

2. Results

A. Investor reaction to speech

We start out by examining the market response to gubernatorial speeches. We estimate the following specification for firm *i*, located in state *s*, at time *t*:

$$CAR_{i,s,t} = \beta_1 Tone_{\text{ s,t}} + \beta_2 X_{i,t} + \beta_3 Z_{s,t} + \varepsilon_{i,s,t} \quad (1)$$

where *CAR* measures cumulative abnormal returns using the market model and is calculated as the difference between average returns for all firms headquartered in a state, and the CRSP equally weighted returns. Firm specific variables, $X_{i,t}$, include firm size, and the state-specific control variables, $Z_{s,t}$ include Speech length, state GDP, growth, and the unemployment rate in

all specifications. *Tone* includes the political speech variables of interest, *Net Optimism, Optimism, Pessimism, Certainty,* and, *Ability*, which are defined in Appendix A. The standard errors are clustered at the state-level and corrected for heteroskedasticity. We provide results for both a 3-day and a 7-day event window in Table IV. The event study design also addresses concerns regarding unobserved heterogeneity, since we examine market returns of firms in a short event window around the date of the State of the state speech, which captures immediate investor reaction to the speech given on a predetermined date.

From the results reported in column (1) of Table IV, we note that the cumulative abnormal returns for firms located in a given state are significantly higher when the State of the state speech uses more optimistic words. Disaggregating the tone of the speech in column (2), we note that the abnormal returns are positively associated with the optimism expressed in the speech, but not significantly related to the pessimism, although the sign of the coefficient for the latter is negative. From the results reported in column (2) we note that if a governor uses ten more words that are classified as optimistic (per 500 words), the 3-day abnormal returns around the speech date of firms located in that state increase by 200 basis points, where the average 3-day abnormal returns around the speech date for the sample is -1.7%.

Examining the interaction between net optimism and certainty in column (3) of Table IV, we find that striking a more decisive tone, as captured by certainty, combined with more optimism is associated with higher abnormal returns. Similarly, the positive coefficient of activity and net optimism in column (4) shows that when the governor mentions factors of relevance for state residents in a more optimistic tone, investors of firms located in that state react more positively. The results are similar for the 7-day event window reported in columns (5)-(8).

In summary, we find that investors of firms located in a given state react significantly to the content and tone of the speeches given by the governor of the state, suggesting that the speech contains new information. In particular, the market reaction is positive for more optimistic speeches and speeches that mention matters of relevance to residents, while it is negatively associated with certainty and pessimism, although the latter effect is not statistically significant. Below we investigate the reactions of managers to the speech.

B. Manager reaction to speech

Using data at the firm-level, we start with a firm fixed effects specification to examine the relationship between investment and employment decisions for a firm located in a given state, and the tone of the annual State of the state speech outlining the policy agenda of the governor of that state. We estimate the following specification:

$$Y_{it} = \beta_1 Tone_{s,t} + \beta_2 X_{i,t-1} + \beta_3 Z_{s,t-1} + \alpha_t + \alpha_i + \varepsilon_{i,s,t} \quad (2)$$

where Yit includes investment and employment as a percentage of total assets, Xit includes firm-level q, cash/total assets, size lagged one year, α_t are year fixed effects, α_i are firm fixed effects, Tone and Zit (lagged one year) were described earlier, and, standard errors are clustered at the state-level and corrected for heteroskedasticity. The results are reported in Table V.

From the results we note that when a state of the state speech expresses a more optimistic tone, firms located in that state increase investment relative to size in the following year. These results are robust to controlling for firm and year fixed effects, firm size, valuation, and cash, and, state size, growth, and, unemployment. In contrast, firms invest less the following year if the speech strikes a more pessimistic note (column 2). From the interaction terms reported in column (3) and (4) we note that it also appears that more optimistic speeches that express more certainty, and refer to factors specific to state residents and firms, are associated with a

significant increase in the investment levels of firms located in that state. These results are also economically significant. A one standard deviation increase in net optimism (9 optimistic words per 500 words) increases investment by .25 relative to total assets, where the sample mean value of investment to assets is 3.6%.

Examining the employment response to political speech in columns (5)-(8) of Table V, we note that the results are similar to the investment variables. Employment as a ratio of assets increases significantly following a more optimistic speech in the prior year, and declines if the speech strikes a more pessimistic note. In terms of economic significance, a one standard deviation increase in net optimism (9 optimistic words per 500 words) increases employment by 0.045 relative to total assets, where the sample mean is 0.52%. Moreover, more optimistic speeches that express more certainty and refer to more issues of concern to residents are also associated with a significant increase in employment (columns (7) and (8)). These results indicate that the information contained in political speech may also affect the real decisions of managers.

3. Identifying effect of political speech on firms

A. Neighboring States Methodology

The specifications in Tables IV and V control for a number of firm and state-specific variables, and for firm-level unobservable heterogeneity that does not vary over time. The main endogeneity concerns arise from potential omitted variable bias and simultaneity. To address the latter, we use political variables lagged one year in the specifications reported in Table V. Since the specifications in Table V also control for firm and year fixed effects, any potential endogeneity would be due to time-varying unobserved heterogeneity, which is not captured by control variables and fixed effects, and, which affects corporate decisions and influences

gubernatorial speeches. For example, an expected increase in demand for a particular product manufactured by a local industry may increase corporate investment, and be discussed by a governor in a more optimistic tone.

To address this potential source of bias, we use a novel neighboring states methodology, which matches firms based on location, Tobin's q, and industry to another firm of similar size and in the same industry but located in a neighboring state that shares a border with this firm's state. Specifically, we identify the bordering states of each state, match each firm to similar firms in neighboring states, and construct differences in the dependent and independent variables between the two groups. The methodology is described in further detail in Appendix B. The underlying assumption is that a firm in the same region that belongs to the same industry and is of similar size is subject to similar economic shocks. As Simintzi (2012) notes, neighboring firms in the same industry share similar customers and suppliers. Returning to the example of unobserved heterogeneity above, a change in investment opportunity caused by increased demand for a firm's product is likely be similar for companies operating in nearby states that belong to the same industry. Constructing differences between the variables for the two groups of firms will remove the variation arising due to unobservable economic conditions, so the remaining differences in the dependent variables (CARs, investment, and employment) is attributable to differences in the content of the political speeches between the groups. Firm matching is done by 2-digit SIC industry and Tobin's q.

Examining the investment and employment response of firms, we note from Table V that relative to a matched firm in the same industry, located in a neighboring state, investment and employment relative to size increases significantly for a firm located in the state where the Governor gives a more optimistic speech. The reverse is true when the State of the state speech

strikes a more pessimistic note. It also appears that firms increase investment in response to a more decisive speech, compared to firms in neighboring states that belong to the same industry. Note that this methodology controls for other factors, such as industry and regional economic shocks, which may affect both manager decisions and the content of a governor's speech. Hence, the observed response to the speech is likely to capture new information contained in the speech, rather than other unobservable factors.

We also use the neighboring states methodology to examine the stock market's response to political speech. The results reported in Table VI suggest that the event study results are robust to controlling for unobservable heterogeneity in regional economic characteristics. Compared to a firm in the same industry that is located in a neighboring state, the cumulative abnormal returns are significantly higher in response to more optimistic speech by the governor in the firm's state, in both the 3-day and 7-day event windows around the speech date.

B. Response based on firm characteristics

If the governor's speech contains new policy related information that may be of interest to firms and investors, this may affect some firms more than others based on their cross-sectional characteristics. For example, if the speech contains new information about the budget, this may be of interest to firms that bid on government contracts, or firms whose operations are concentrated in that state. To examine the response of firms based on their cross-sectional characteristics, in this section, we identify both the budget and government contract, and the education related parts of State of the state speeches, and focus on the tone of these parts of the speech. Examining the heterogeneous responses of firms based on their characteristics also potentially identifies channels by which the content of the speech may affect firms' responses.

First, firms' response to the budget and government contract part of the speech may be stronger for companies that are more geographically focused. We identify the geographic focus of companies based on the proportion of times a particular state is mentioned in their 10K reports (see Garcia and Norli, 2012; Cohen et al., 2011). For example, 25% of firms in our sample operate exclusively in their headquarters state. We define firms with 50% or more of their operations in one state as being "Focused". Alternatively, "Non-focused" companies are those that do not mention a particular state a majority of the time.

Table VII Panel A describes the investment response and Panel B describes the employment response of firms based on cross-sectional firm characteristics. The results indicate that for companies that are geographically focused, a speech that is more optimistic about the state's budget, as captured by the estimated coefficient of the *Net Optimism* variable, is associated with a significant increase in *Investment/Assets* (Panel A, column 1. In contrast, non-focused companies, whose operations are not geographically concentrated in a region, do not experience a change in investment following a more optimistic speech (Panel A, column 2). Statistical tests indicate that the coefficients between the two groups are significantly different. We observe a similar response for employment in Panel B. *Employment/Assets* is significantly higher for geographically focused companies when the budget portion of the speech is more optimistic, and the estimated coefficients are significantly different between the two groups (columns 1 and 2, Panel B).

Next, we focus on the part of the speech related to education, since the state government's budget affects expenditures on higher education, and the supply of educated workers, which in turn might impact the investment and employment decisions of firms that rely

on human capital skills. Based on Wang (2010), we use the Current Population Survey to find the share of workers with a college education at the industry level, and define:

$$human\ capital_{i,t} = \frac{\sum_{n \in i} w_{n,t} college_{n,t}}{\sum_{n \in i} w_{n,t}}$$

where *w* is the survey weight and *college* is the dummy variable for worker *n* if the worker has a college education. For every two-digit SIC industry *i* and year *t*, we define human capital as the share of workers with a college education. From columns (3) and (4) of Panel A, we note that firms with more educated workers invest more in response to a more optimistic speech on education. These coefficients are also statistically different between the two groups. The results are similar for employment in Panel B (columns (3) and (4)).

Third, firms that depend more on government contracts may respond more to the tone of the budget and parts of the speech that mention government contracts. From Bello et al. (2012), we define *Govt. Contract Dep.* as the proportion of each industry's total output that is purchased directly by the government sector, as well as indirectly through the chain of economic links across industries. For example, high dependence industries include defense, shipbuilding, radio, and television; while low dependence industries include food products, soft drinks, and entertainment. From the results reported in columns (5) and (6) of Panel A, we note that firms that depend more on government contracts, respond to a more optimistic budget speech by increasing their investment. In contrast, firms that are not in government contract dependent industries, do not change their investment patterns in response to the tone of the speech. In case of employment, while the results suggest that both groups increase employment in response to a more positive budget speech (columns (5) and (6), Panel B), statistical tests indicate that

government contract dependent firms increase employment more in response to a more optimistic speech compared to firms that do not depend on government contracts.

Focusing on the part of the speech that mentions the state budget and education policy, the results reported in Table VII suggest that firms respond to political speech because the speech may contain new information about government expenditures that is directly relevant to firms. In particular, we observe that companies that are geographically focused, employ a greater share of college educated workers, and depend more on government contracts, are more likely to increase their investment in response to a more optimistic speech about the budget by the governors of their states. The results suggest that political speech is likely to contain new information, which is relevant for firms that depend more on government policies.

C. Instrumental Variable Analysis

We also conduct an instrumental variable analysis where we treat the political speech tone variables as endogenous. Anecdotal evidence suggests that governors may adjust the tone of their political rhetoric if the U.S. president belongs to a different political party. For example, *The New York Times* noted that governors of the opposing party were moderating their tone in a presidential election year, "…But many of the new Republican governors who swept into office last year, taking aim at collective bargaining rights, are striking less confrontational notes as they begin the new year, at least judging by what they have been saying in their State of the State addresses…And with a presidential campaign unfolding, some Republicans worry that overreaching at the local level, particularly in swing states, would make it harder for them to win in November," ("Second Year In, Republican Governors Moderate Tone," *The New York Times*, January 30, 2012).

We identify whether the governor of a state belongs to a different political party than the U.S. President, and use this variable as an instrument for speech tone. While state-federal party disparity is likely to be correlated with speech tone, it is unlikely that this variable is influenced by firm performance. The variable takes the value of one if the party is different, and zero otherwise.

The results from a two-stage instrumental variable regression are reported in Table VIII. They show that treating *Net Optimism* as endogenous, it is positively related to the 3-day abnormal returns, and to investment and employment.

D. Examining differences in state-level political institutions and state-level characteristics

To establish that investors and firms respond to the content of the speech, and not unobservable factors, we investigate whether institutional differences across states affects the response to the State of the state address. Specifically, we look at the effect of term limit and years left for the next gubernatorial election. The results are reported in Table IX.

Regarding term limits, approximately if a governor is in his or her last year of office, her speech may not have much relevance for firms and investors since she will not be in charge of the policy agenda for the state in the following years. Alternatively, if a governor is up for reelection soon, then the tone of his speech may be more relevant for firms. The results reported in Table IX, columns (1) and (2) suggest that on average, in states that have term limits, the tone of the speech does not have much impact on firm investments and employment (sum of the coefficient of *Net Optimism* and the interaction term), while term limits appear to be negatively associated with firm investments. The results regarding years left for an election appear to

suggest that on average, fewer years left for an election are associated with negative investments, suggesting that politicians may be less credible if they are up for election.

F. Political uncertainty and political speech

To examine whether the information contained in political speech may affect firms' investment and employment decisions by reducing political uncertainty, we examine the response to the tone of the speech for each year of our sample. In particular, we estimate the specification (2) for each year between 2002 and 2010 with investment/assets as the dependent variable, and report the estimated coefficients of the *Net Optimism* variable in Table XI. We also plot the estimated coefficients in Figure 2. As can be seen from the reported results, and from the graph in Figure 2, the coefficient of the tone variable appears to increase over time. Since the economic crisis hit in the later years of this sample period, economic uncertainty was very high during these later years, which is also when government policy may be most critical. These results suggest that the content of political speech may also reduce policy uncertainty, which can affect asset prices, investments, and output. For example, Pastor and Veronesi (2012) argue that political news, indications of what governments might do, should affect stock prices, especially in weak economic conditions.

5. Conclusion

To the best of our knowledge this is the first paper to examine the impact of political speech on firms. Our results suggest that politicians' speech may contain information that is relevant for firms and investors.

Using State of the state speeches given annually by governors of U.S. states, we find that speeches that strike a more optimistic and certain tone are associated with higher abnormal

returns and, increase in investment and employment for firms headquartered in that state. The results also show that more human capital intensive firms, firms that rely more on government contracts, and firms that have more geographically focused operations respond more to optimistic political speech. These results are robust to controlling for unobservable state and firm effects, and to using firms in neighboring states as an identification strategy. The results also suggest that the content of political speech matters more during economic downturns, suggesting that political speech may affect firms' investment decisions by reducing policy uncertainty.

References

Austen-Smith, David (1990) "Information transmission in debate," *American Journal of Political Science.*

Belo, F., V. Gala, and J. Li, 2012, Government spending, political cycles and the cross section of stock returns, *Journal of Financial Economics*, forthcoming.

Besley, Timothy and Anne Case (1995), "Does electoral accountability affect economic policy choices? Evidence from gubernatorial term limits," *The Quarterly Journal of Economics*.

Burden, Barry C., and Joseph Neal Rice Sandburg. 2003, "Budget Rhetoric in Presidential Campaigns from 1952 to 2000," *Political Behavior* 25: 97-118.

Canes-Wrone, Brandice, 2001, "The president's legislative influence from public appeals," *American Journal of Political Science*.

Cohen, Jeffrey E., 1995, "Presidential Rhetoric and the Public Agenda," *American Journal of Political Science,* Vol. 39, No. 1, pp. 87-107.

Druckman and Holmes (2004), "Does presidential rhetoric matter? Priming and presidential approval," *Presidential Studies Quarterly*.

Edwards, GC III and B.D. Wood (1999), "Who influences whom? The president, Congress, and the media," *American Political Science Review.*

Eshbaugh-Soha and Peake (2005), "Presidents and the Economic Agenda," *Political Research Quarterly.*

Hill, K.Q. (1998), "The Policy Agendas of the President and Mass Public," *American Journal of Political Science*.

Pastor, Lubor and Pietro Veronesi, 2012, "Uncertainty about Government Policy and Stock Prices," *Journal of Finance*, August 2012, 64, 4, 1219-1264.

Peltzman, Sam (1987), "Economic Conditions and Gubernatorial Elections," *The American Economic Review*.

Wang, J., 2010, The role of human capital in corporate bankruptcy, working paper, MIT.

Appendix A: Variables, definitions, and sources

Variables	Definitions	Sources
Panel A: State political variables		
number of addresses	The number of the State of the State addresses by state. The State of the State Address is a speech customarily given once each year by the governors of most states of the United States. The speech is customarily delivered before both houses of the state legislature sitting in joint session, with the exception of the Nebraska Legislature, which is a unicameral body. In Iowa, the speech is called the Condition of the State Address. In Kentucky, Massachusetts, Pennsylvania, and Virginia it is called the State of the Commonwealth Address. In Texas, North Dakota, Nevada and Montana the speech is not given every year because the legislatures meets only every second year (on the odd-numbered years). In other states, some governors choose to skip making a state of the state speeches. This practice can change across administrations.	Calculated by the authors. Tarr (2000) and Stateline (http://www.stateline.org).
term-limits	Governors of 36 states are subject to term-limits. Governors of the following states are limited to two consecutive terms but re-eligible after four years out of office: Alabama, Alaska, Arizona, Colorado, Florida, Georgia, Hawaii, Kansas, Kentucky, Louisiana, Maine, Maryland, Nebraska, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, West Virginia. Governors of the following states are limited to serving 8 out of any 12 years: Indiana, Oregon. Governors of the following states are limited to serving two terms with 8 out of any 16 years: Montana, Wyoming. Governors of the following states are limited to two terms for life: Arkansas, California, Delaware, Michigan, Mississippi, Missouri, Nevada. Governors of Virginia cannot succeed themselves, although former governors are re-eligible after four years out of office. Governors of 14 states are not subject to term-limits. Governors of New Hampshire and Vermont may serve unlimited two-year terms. Governors of the following states can serve unlimited four year terms: Connecticut, Idaho, Illinois, Iowa, Massachusetts, Minnesota, New York, North Dakota, Texas, Utah, Washington, Wisconsin.	National Conference of State Legislatures, http://www.ncsl.org.
number of elections	All states hold gubernatorial elections on the first Tuesday following the first Monday in November. The earliest possible date for the election is therefore November 2 (if that date falls on a Tuesday), and the latest possible date is November 8 (if November 1 falls on a Tuesday). The following states hold their gubernatorial elections every even numbered year: New Hampshire and Vermont. The other 48 states hold gubernatorial elections every four years. The following states hold their gubernatorial elections in even numbered years which are not divisible by four: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Wisconsin and Wyoming. The following states hold their gubernatorial elections in years divisible by four (i.e. concurrent with presidential elections): Delaware, Indiana, Missouri, Montana, North Carolina, North Dakota, Utah, Washington, West Virginia. hold their gubernatorial elections in the year before a year divisible by four: Kentucky, Louisiana, and Mississippi. The following states hold their gubernatorial elections in the year following a year divisible by four: New Jersey and Virginia. The 2003 California gubernatorial recall election was a special election permitted under California state law. It resulted in voters replacing incumbent Democratic Governor Gray Davis with Republican Arnold Schwarzenegger.	Stateline (http://www.stateline.org)
voting margin	The difference between the percentage of votes of the winning candidate and the next candidates with the largest percentage of votes.	Stateline (http://www.stateline.org)
number of firm observations	The number of publicly traded companies per state with non-missing firm observations (investment, q, employment, cash, size). We drop companies with total assets less than 1m.	
Panel B: State of the State addresses linguistic variables		
optimism	DICTION 6.0 is computer-aided text analysis program that uses a series of dictionaries to search a passage for five semantic features—Activity, Optimism, Certainty, Realism and Commonality—as well as thirty-five sub-features. DICTION conducts its searches via a 10,000-word corpus and any number of user-created custom dictionaries for particular research needs.	Stateline (http://www.stateline.org), C-SPAN (http://www.c-span.org), Diction 6.0 software

	Optimism reflects language endorsing some person, group, concept or event or highlighting their positive entailments. It is calculated as the number of words per 500 words of text according to the following formula: (Praise + Satisfaction + Inspiration). Praise reflects affirmations of some person, group, or abstract entity. Included are terms isolating important social qualities (*dear, delightful, witty),* physical qualities (*mighty, handsome, beautiful),* intellectual qualities (*shrewd, bright, vigilant, reasonable),* entrepreneurial qualities (*successful, conscientious, renowned*), and moral qualities (*faithful, good, noble*). All terms in this dictionary are adjectives. Satisfaction reflects terms associated with positive affective states (*cheerful, passionate, happiness*), with moments of undiminished joy (*thanks, smile, welcome*) and pleasurable diversion (*excited, fun, lucky),* or with moments of triumph (*celebrating, pride, auspicious).* Also included are words of nurturance: *healing, encourage, secure, relieved. Inspiration reflects* abstract virtues deserving of universal respect. Most of the terms in this dictionary are nouns isolating desirable moral qualities (*faith, honesty, self-sacrifice, virtue*) as well as attractive personal qualities (*courage, dedication, wisdom, mercy).* Social and political ideals are also included: *patriotism, success, education, justice*.	
pessimism	It is calculated as the number of words per 500 words of text according to the following formula: (Blame + Hardship + Denial). Blame reflects terms designating social inappropriateness (*mean, naive, sloppy, stupid*) as well as downright evil (*fascist, blood-thirsty, repugnant, malicious*) compose this dictionary. In addition, adjectives describing unfortunate circumstances (*bankrupt, rash, morbid, embarrassing*) or unplanned vicissitudes (*weary, nervous, painful, detrimental)* are included. The dictionary also contains outright denigrations: *cruel, illegitimate, offensive, miserly*. *Hardship reflects words describing* natural disasters (*earthquake, starvation, tornado, pollution),* hostile actions (*killers, bankruptcy, enemies, vices*) and censurable human behaviour (*infidelity, despots, betrayal*). It also includes unsavoury political outcomes (*injustice*, *slavery, exploitation, rebellion*) as well as normal human fears (*grief, unemployment, died, apprehension*) and in capacities (*error*, *cop-outs, weakness*). Denial reflects standard negative contractions (*aren't, shouldn't, don't*), negative functions words (*nor, not, nay*), and terms designating null sets (*nothing, nobody, none*).	Stateline (http://www.stateline.org), C-SPAN (http://www.c-span.org), Diction 6.0 software
net optimism	The difference between optimism and pessimism.	Stateline (http://www.stateline.org), C-SPAN (http://www.c-span.org), Diction 6.0 software
certainty	Certainty reflects language indicating resoluteness, inflexibility, and completeness and a tendency to speak *ex cathedra*. It is calculated as the number of words per 500 words of text according to the following formula: (Tenacity + Levelling + Collectives + Insistence)– (Numerical Terms + Ambivalence + Self Reference + Variety). Tenacity reflects all uses of the verb to be (*is, am, will, shall*), three definitive verb forms (*has, must, do*) and their variants, as well as all associated contraction's (*he'll, they've, ain't*). These verbs connote confidence and totality. Levelling reflects words used to ignore individual differences and to build a sense of completeness and assurance. Included are totalizing terms (*everybody, anyone, each, fully*), adverbs of permanence (*always, completely, inevitably, consistently*), and resolute adjectives (*unconditional, consummate, absolute, open-and-shut*). Collectives reflects singular nouns connoting plurality that function to decrease specificity. These words reflect a dependence on categorical modes of thought. Included are social groupings (*crowd, choir, team, humanity*), task groups (*army, congress, legislature, staff*) and geographical entities (*county, world, kingdom, republic).* Insistence is a measure of code-restriction and semantic contentedness. The assumption is that repetition of key terms indicates a preference for a limited, ordered world. In calculating *Insistence*, all words occurring three or more times that function as nouns or noun-derived adjectives are identified (either cybernetically or with the user's assistance) and the following calculation performed: [Number of Eligible Words x Sum of their Occurrences] ÷ 10. Numerical terms reflect any sum, date, or product specifying the facts in a given case. This dictionary treats each isolated integer as a single word and each separate group of integers as a single word. In addition, the dictionary contains common numbers in lexical format (*one, tenfold, hundred, zero)* as well as terms indicating numerical operations (*subtract, divide, multiply, percentage*) and quantitative topics (*digitize, tally, mathematics).* The presumption is that *Numerical Terms* hyper-specify a claim, thus detracting from its universality. Ambivalence reflects words expressing hesitation or uncertainty, imp lying a speaker's inability or unwillingness to commit to the verbalization being made. Included are hedges (*allegedly*, *perhaps, might*), statements of inexactness (*almost, approximate, vague, somewhere*) and confusion (*baffled, puzzling, hesitate).* Also included are words of restrained possibility (*could, would, he'd*) and mystery (*dilemma, guess, suppose, seems).* Self-reference reflects all first-person references, including *I, I'd, I'll, I'm, I've, me, mine, my, myself.* Self-references are treated as acts of indexing whereby the locus of action appears to reside in the speaker and not in the world at large thereby implicitly acknowledging the speaker s limited vision. Variety measure conforms to Wendell Johnson's (1946) Type-Token Ratio which divides the	Stateline (http://www.stateline.org), C-SPAN (http://www.c-span.org), Diction 6.0 software

	number of different words in a passage by the passage's total words. A high score indicates a speaker's avoidance of overstatement and a preference for precise, molecular statements.	
activity	Language describing tangible, immediate, recognizable matters that affect people's everyday lives. It is calculated as the number of words per 500 words of text according to the following formula: [Familiarity + Spatial Awareness + Temporal Awareness + Present Concern + Human Interest + Concreteness] – [Past Concern + Complexity]. *Familiarity* consists of a selected number of C.K. Ogden s (1968) operation words which he calculates to be the most common words in the English language. Included are common prepositions (*across, over, through*), demonstrative pronouns (*this, that*) and interrogative pronouns (*who, what*), and a variety of particles, conjunctions and connectives (*a*, *for, so*). *Spatial awareness reflects* terms referring to geographical entities, physical distances, and modes of measurement. Included are general geographical terms (*abroad, elbow-room, locale, outdoors*) as well as specific ones (*Ceylon, Kuwait, Poland*). Also included are politically defined locations (*county, fatherland, municipality, ward*), points on the compass (*east*, *southwest*) and the globe (*latitude, coastal, border, snowbelt*), as well as terms of scale (*kilometer, map, spacious*), quality (*vacant, out-of-the-way, disoriented*) and change (*pilgrimage, migrated, frontier.*) *Temporal awareness* reflects terms that fix a person, idea, or event within a specific time-interval, thereby signalling a concern for concrete and practical matters. The dictionary designates literal time (*century, instant, mid-morning*) as well as metaphorical designations (*lingering, seniority, nowadays*). Also included are calendrical terms (*autumn, year-round, weekend*), elliptical terms (*spontaneously, postpone, transitional*), and judgmental terms (*premature, obsolete, punctual*). *Present concern* represents selective list of present-tense verbs extrapolated from C. K. Ogden's list of general and picturable terms, all of which occur with great frequency in standard American English. The dictionary is not topic-specific but points instead to general physical activity (*cough,* taste, sing, take), social operations (canvass, touch, govern, meet), and task-performance (make, cook, print, paint). *Human interest* is an adaptation of Rudolf Flesch's notion that concentrating on people and their activities gives discourse a life-like quality. Included are standard personal pronouns (*he, his,* ourselves, them), family members and relations (cousin, wife, grandchild, uncle), and generic terms (friend, baby, human, persons). *Concreteness* is a large dictionary possessing no thematic unity other than tangibility and materiality. Included are sociological units (peasants*, African-Americans, Catholics*), occupational groups (*carpenter, manufacturer, policewoman*), and political alignments (*Communists, congressman, Europeans*). Also incorporated are physical structures (*courthouse, temple, store*), forms of diversion (*television, football, CD-ROM*), terms of accountancy (*mortgage, wages, finances*), and modes of transportation (*airplane, ship, bicycle*). In addition, the dictionary includes body parts (*stomach, eyes, lips*), articles of clothing (*slacks, pants, shirt*), household animals (*cat, insects, horse*) and foodstuffs (*wine, grain, sugar*), and general elements of nature (*oil, silk, sand*). *Past concern* is the past-tense forms of the verbs contained in the Present Concern dictionary. *Complexity* is a simple measure of the average number of characters-per-word in a given input file. Borrows Rudolph Flesch's (1951) notion that convoluted phrasings make a text's ideas abstract and its implications unclear.	Stateline (http://www.stateline.org), C-SPAN (http://www.c-span.org), Diction 6.0 software
speech length	The number of words for the State of the State addresses or State of the Union addresses.	
Panel C: Firm variables		
investment (% of assets)	Investment is defines as capital expenditures over lagged (by one year) total assets. We drop companies with total assets less than 1m.	Compustat
q	Measure of company valuation. It is defined as total assets plus the market value of equity (share price times the number of shares outstanding, less book equity, all over lagged (by one year) total assets. We drop companies with total assets less than 1m.	Compustat
employment (% of assets)	The number of employees scaled by lagged (by one year) total assets. We drop companies with total assets less than 1m.	Compustat
cash (% of assets)	Income before extraordinary items plus depreciation and amortization expense and R&D expenses over lagged (by one year) total asset. We drop companies with total assets less than 1m.	Compustat
size	Log of total assets. We drop companies with total assets less than 1m.	Compustat
Panel D: State variables		
GDP per capita	State Gross Domestic Product per capita expressed in real 2005 dollars.	US Bureau of Economic Analysis (http://www.bea.gov/)
GDP growth (%)	Rate of growth rate in Gross Domestic Product per capita expressed in real 2005 dollars.	US Bureau of Economic Analysis

		(http://www.bea.gov/)
unemployment (%)	State rate of unemployment.	US Bureau of Economic Analysis (http://www.bea.gov/)
State-Federal Dummy	A dummy variable that is equal to one if the state's Governor belongs to a different political party than the U.S. President.	
state government transparency	A measure of of state government transparency based on the assessment of its openness, accountability, and honesty based on proactive disclosure, disclosure of public records, and disclosure of campaign contribution. The ranking is compiled by Sunshine Review, a non-profit organization dedicated to state and local government transparency. The index takes values of 1 (least transparent government), 2, and 3 (most transparent government).	Sunshine review (www.sunshinereview.org)
major disaster	Indicator variable which equals 1 if a state experienced a major disaster and 0, otherwise.	FEMA, www.fema.org
emergency declaration	Indicator variable which equals 1 if a state declared emergency and 0, otherwise.	FEMA, ww.fema.org
Panel E: Announcement returns (%)		
(-1,+1)	Cumulative abnormal returns over the (-1,+1) period using the market model (difference between firm return and CRSP equally weighted return).	Compustat and CRSP
(-3,+3)	Cumulative abnormal returns over the (-3,+3) period using the market model (difference between firm return and CRSP equally weighted return).	Compustat and CRSP
(-5,+5)	Cumulative abnormal returns over the (-5,+5) period using the market model (difference between firm return and CRSP equally weighted return).	Compustat and CRSP
(-2,+1)	Cumulative abnormal returns over the (-2,+1) period using the market model (difference between firm return and CRSP equally weighted return).	Compustat and CRSP

Appendix B: Neighboring States Methodology

An endogeneity concern arises from the fact that the state and firm-level control variables may not capture variations in current and expected state economic conditions that may affect investment and employment decisions and, influence politicians' speeches. To disentangle firm reactions to new information transmitted by politicians from state-specific economic shocks we employ a "neighboring states" difference-in-difference methodology. Specifically, for every company in a given state we identify a similar sized firm (based on Tobin's Q) in the same industry but located in a neighboring state, and compare their responses. The underlying assumption is that firms in similar economic regions that belong to the same industry are subject to similar economic shocks. As Simintzi (2012) indicates, closely located firms in the same industry share similar customers and suppliers. This approach assumes that changes in investment opportunities caused by larger demand are likely to be similar for companies operating in bordering states, especially if these companies belong to the same industry. Hence, using the difference in the dependent variables across the matched firms, unobserved shocks cancel out. The remaining variation in firm responses is, therefore, more likely to be due to new information contained in political speeches.

Consider an example for the state of Indiana and a regression specification with investment as the dependent variable. Indiana has four neighboring states: Michigan, Ohio, Kentucky, and Illinois. In 2005, there were 85 firms in Indiana, 110 firms in Michigan, 43 firms in Kentucky, 189 firms in Ohio, and 231 firms in Illinois. For every firm in Indiana, we find one firm in Michigan (in the same 2-digit SIC code and closest match according to firm q), one firm in Ohio (in the same 2-digit SIC code and closest match according to firm q), one firm in Kentucky (in the same 2-digit SIC code and closest match according to firm q), and one firm in Illinois (in the same 2-digit SIC code and closest match according to firm q). We then take the average of investment for these four neighboring firms and subtract it from the investment of the firm in Indiana. We repeat this process for every firm in the sample. We then regress the difference in investment and employment on the difference in net optimism (difference between net optimism of the speech in Indiana in 2005 and the average value of net optimism of speeches in 2005 for Michigan, Ohio, Kentucky, and Illinois. Similarly, we form the differences in CARs and average the difference for every state. Note that we drop double entries (a firm in Indiana is matched with a firm in Ohio and then same firm in Ohio is matched with the firm in Indiana).

Out of the 50 states, 48 states have at least one neighboring state. Two states, Alaska and Hawaii, share no borders with other states and therefore are dropped from the sample. On average, a state has 4.3 neighboring states, with Tennessee and Missouri having the largest number of neighboring states, eight each.

We assume that every firm reaction $Y_{i,IN,j,t}$ (investment or employment) is a function of political speech $P_{IN,t}$, firm observable characteristics $X_{i,IN,j,t}$, firm unobserved characteristics λ_i, industry unobservable factors γ_{IN}, time unobserved factors μ_t, and state unobserved factors s_{IN} as in the equation below,

$$Y_{i,IN,j,t} = P_{IN,t} + \lambda_i + s_{IN} + \gamma_{j,t} + \mu_{IN,,t} + X_{i,IN,j,t}$$

For a firm in a neighboring state, say Ohio, the equation is

$$Y_{j,OH,j,t} = P_{OH,t} + \lambda_j + s_{OH} + \gamma_{IN,t} + \mu_{OH,t} + X_{j,OH,j,t}$$

Taking the difference results in

$$(Y_{i,IN,j,t} - Y_{j,OH,j,t}) = (P_{IN,t} - P_{OH,t}) + (\lambda_i - \lambda_j) + (s_{IN} - s_{OH}) + (\gamma_{j,t} - \gamma_{j,t}) + (\mu_{IN,t} - \mu_{OH,t}) + (X_{i,IN,j,t} - X_{i,OH,j,t})$$

However, we use firms in all neighboring states, as described earlier. We assume that firms that belong to the same industry face the same industry-specific shocks ($(\gamma_{j,t} - \gamma_{j,t} = 0)$, firms in the neighboring states are

subject to similar shocks ($s_{IN} - s_{OH} = 0$), matching by investment opportunity cancels out firm-specific effects ($\lambda_i - \lambda_j = 0$), and time effects are the same in the neighboring states ($\mu_{IN,t} - \mu_{OH,t} = 0$).

Thus, the impact of state speech can be estimated using the following specification expressed in differences,

$$\Delta Y_{i,S,j,t\ ,t} = \beta_1 \Delta P_{S,t} + \beta_2 (X_{i,IN,j,t} - X_{i,OH,j,t})$$

Then the coefficient of interest β_2 indicates the incremental impact of the differences in political speeches which is orthogonal to other unobserved characteristics.

Below, we report a table of neighboring states.

Neighboring States

Year	State	Abbr.	Number of NS
2006	ALABAMA	AL	4
2006	ALASKA	AK	0
2006	ARIZONA	AZ	5
2006	ARKANSAS	AR	6
2006	CALIFORNIA	CA	3
2006	COLORADO	CO	7
2006	CONNECTICUT	CT	3
2008	DELAWARE	DE	3
2006	FLORIDA	FL	2
2006	GEORGIA	GA	5
2006	HAWAI	HI	0
2006	IDAHO	ID	6
2006	ILLINOIS	IL	5
2008	INDIANA	IN	4
2006	IOWA	IA	6
2006	KANSAS	KS	4
2007	KENTUCKY	KY	7
2007	LOUISIANA	LA	3
2006	MAINE	ME	1
2006	MARYLAND	MD	4
2006	MASSACHUSETTS	MA	5
2006	MICHIGAN	MI	3
2006	MINNESOTA	MN	4
2007	MISSISSIPPI	MS	4
2008	MISSOURI	MO	8
2008	MONTANA	MT	4
2006	NEBRASKA	NE	6
2006	NEVADA	NV	5
2006&2008	NEW HAMPSHIRE	NH	3

2005	NEW JERSEY	NJ	4
2006	NEW MEXICO	NM	5
2006	NEW YORK	NY	5
2008	N. CAROLINA	NC	4
2008	NORTH DAKOTA	ND	3
2006	OHIO	OH	5
2006	OKLAHOMA	OK	6
2006	OREGON	OR	4
2006	PENNSYLVANIA	PA	6
2006	RHODE ISLAND	RI	2
2006	S. CAROLINA	SC	2
2006	SOUTH DAKOTA	SD	6
2006	TENNESSEE	TN	8
2006	TEXAS	TX	4
2008	UTAH	UT	6
2006&2008	VERMONT	VT	3
2005	VIRGINIA	VA	5
2008	WASHINGTON	WA	2
2008	WEST VIRGINIA	WV	5
2006	WISCONSIN	WI	4
2006	WYOMING	WY	6

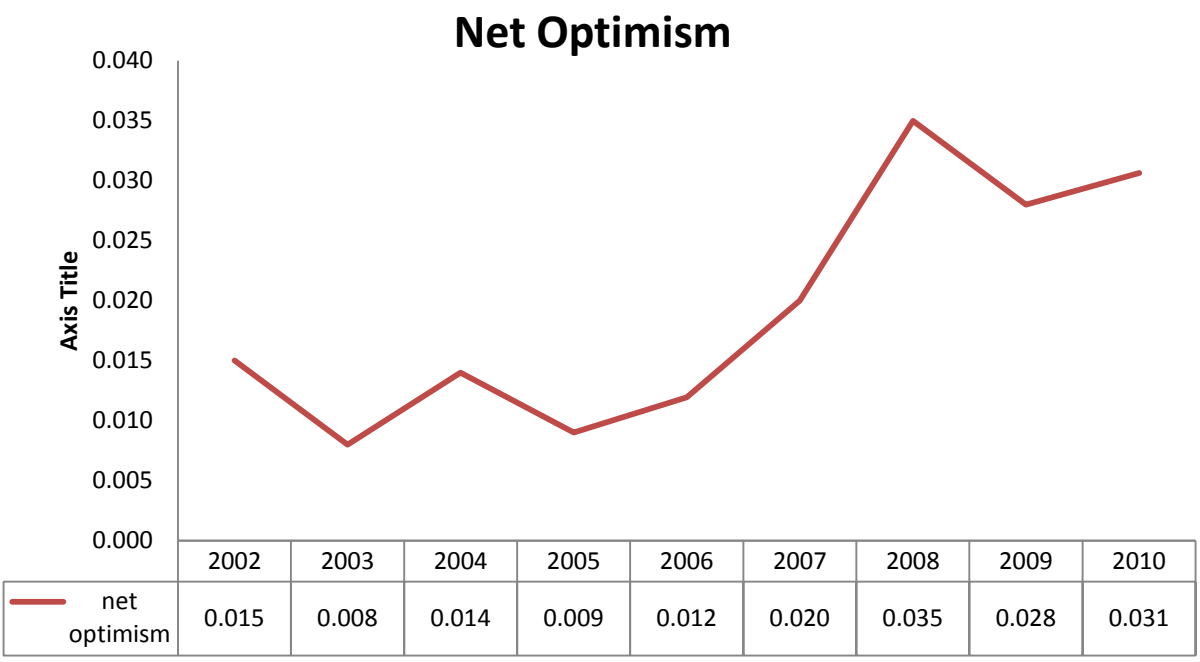
Figure 1

2002

2009

Figure 2

Examining the impact of political speech on firm investment over time



	2002	2003	2004	2005	2006	2007	2008	2009	2010
net optimism	0.015	0.008	0.014	0.009	0.012	0.020	0.035	0.028	0.031

Table I: Describing state level variables

Panel A: State Political Measures

State	Number of speeches	Term-limit	Number of elections
ALABAMA	8	yes	3
ALASKA	8	yes	3
ARIZONA	9	yes	3
ARKANZAS	4	yes	3
CALIFORNIA	8	yes	4
COLORADO	8	yes	3
CONNECTICUT	8	no	3
DELAWARE	8	yes	2
FLORIDA	9	yes	3
GEORGIA	9	yes	3
HAWAI	9	yes	3
IDAHO	8	no	3
ILLINOIS	9	no	3
INDIANA	9	yes	2
IOWA	9	no	3
KANSAS	9	yes	3
KENTUCKY	8	yes	2
LOUISIANA	6	yes	2
MAINE	8	yes	3
MARYLAND	8	yes	3
MASSACHUSETTS	9	no	3
MICHIGAN	9	yes	3
MINNESOTA	8	no	3
MISSISSIPPI	9	yes	2
MISSOURI	9	yes	2
MONTANA	5	yes	2
NEBRASKA	8	yes	3
NEVADA	6	yes	3
NEW HAMPSHIRE	6	no	5
NEW JERSEY	8	yes	2
NEW MEXICO	9	yes	3
NEW YORK	8	no	3
NORTH CAROLINA	4	yes	2
NORTH DAKOTA	6	no	2
OHIO	8	yes	3
OKLAHOMA	9	yes	3
OREGON	6	yes	3
PENNSYLVANIA	6	yes	3
RHODE ISLAND	8	yes	3
SOUTH CAROLINA	8	yes	3
SOUTH DAKOTA	8	yes	3
TENNESSEE	7	yes	3
TEXAS	4	no	3
UTAH	8	no	3
VERMONT	8	no	5
VIRGINIA	9	yes	2
WASHINGTON	9	no	2
WEST VIRGINIA	8	yes	2
WISCONSIN	9	no	3
WYOMING	7	yes	3
Average	7.760		2.840
Total	388		142

Table I: Describing state level variables

Panel B: State of the State addresses linguistic variables

Optimism	Pessimism	Net optimism	Certainty	Activity	Speech length (words)	GDP per capita
21.839	12.646	9.193	66.818	10.2413	2,927	32,302
28.916	11.916	17.000	58.071	8.10125	4,439	59,185
19.488	9.564	9.923	59.588	9.91111	4,575	37,282
22.618	10.095	12.523	47.628	23.2475	4,689	31,243
18.393	13.338	5.055	61.253	11.9125	2,930	46,421
24.189	8.210	15.979	61.868	6.03125	4,652	46,584
22.235	9.031	13.204	55.218	13.1863	3,118	56,797
18.751	5.958	12.794	58.011	19.5125	3,903	62,815
26.083	7.381	18.702	47.893	14.2522	3,663	36,893
27.228	6.007	21.221	59.856	9.97556	4,062	39,471
19.260	7.017	12.243	42.501	14.0244	4,873	43,352
18.500	7.526	10.974	49.596	12.4	5,380	32,469
23.850	10.787	13.063	78.533	11.2656	5,926	45,075
21.170	12.088	9.082	54.397	11.8356	3,153	37,774
27.264	9.928	17.337	56.773	13.2489	4,083	40,161
24.169	7.688	16.481	62.409	9.86222	3,212	39,036
20.363	11.599	8.764	43.406	17.5213	3,669	32,994
23.050	10.258	12.792	66.078	12.3967	3,680	41,935
23.741	8.630	15.111	70.416	18.7825	4,566	34,411
26.603	9.313	17.290	38.055	18.7888	3,492	44,187
17.649	9.317	8.332	57.147	11.7178	2,536	50,610
25.942	11.844	14.098	68.454	12.1533	6,061	36,334
25.801	8.141	17.660	61.029	12.39	3,909	45,517
20.848	10.919	9.929	72.821	12.2578	4,189	28,552
25.587	12.703	12.883	70.070	13.4244	4,551	36,978
18.024	8.152	9.872	71.262	12.535	4,084	31,778
23.768	6.021	17.746	82.306	19.6067	2,264	41,739
33.900	10.047	23.853	65.612	5.944	4,675	44,411
21.900	8.717	13.183	93.218	13.81	4,091	41,032
24.980	11.031	13.949	48.716	11.43	4,721	49,631
23.998	8.467	15.531	51.118	16.02	4,034	34,738
21.946	8.118	13.829	72.648	8.82625	5,867	50,489
25.555	13.900	11.655	83.120	14.9425	3,096	40,024
21.048	4.168	16.880	88.302	28.848	4,782	40,163
21.361	8.469	12.893	67.951	16.3478	4,261	37,876
23.042	9.278	13.764	60.741	9.17333	3,489	34,737
20.837	11.940	8.897	62.508	11.985	3,866	40,936
16.153	8.897	7.257	50.803	15.5817	8,006	38,899
27.030	7.733	19.298	64.066	13.6425	3,474	41,106
18.433	8.306	10.126	33.064	10.9813	5,792	32,584
14.708	7.539	7.169	75.109	10.9513	7,766	41,634
17.560	5.884	11.676	59.417	7.84286	3,960	36,620
25.720	10.293	15.428	47.208	12.6925	5,015	43,290
24.056	9.110	14.946	50.015	14.5163	3,069	37,032
25.378	5.593	19.785	55.119	17.8	4,809	36,149
19.658	10.322	9.336	53.476	13.2211	4,559	46,291
25.529	9.632	15.897	71.510	13.85	3,657	44,893
20.493	6.180	14.313	67.613	23.1613	5,856	28,670
18.950	7.014	11.936	60.411	14.0078	4,419	38,945
22.474	9.343	13.131	36.749	15.4157	6,174	55,009
22.601	9.121	13.480	60.799	13.631	4,360	40,941
33.900					8005.830	

Table I: Describing state level variables

Panel C: State economic variables

GDP growth (%)	Unemployment (%)	Government transparency	Major disasters	Emergency declaration
0.832	5.633	2	15	3
1.317	7.100	1	14	0
0.167	6.100	1	8	2
0.889	5.878	2	16	2
0.950	7.356	3	12	3
0.245	5.833	2	2	4
0.958	5.744	1	3	5
0.191	4.944	3	5	2
0.458	6.078	2	15	4
-0.724	6.122	2	7	1
1.136	4.056	2	5	0
0.953	5.167	2	4	1
0.546	6.844	3	13	4
0.704	6.367	3	15	3
1.985	4.522	1	12	2
0.945	5.378	2	21	2
0.594	6.989	2	18	2
1.328	5.611	2	12	5
0.520	5.533	2	13	8
1.331	4.867	3	5	2
0.896	5.822	3	6	8
-0.389	8.367	1	3	2
0.809	5.300	2	10	4
1.097	7.444	2	12	2
0.016	6.322	2	21	4
1.002	4.544	2	3	1
1.435	3.789	1	18	1
-0.218	6.967	2	4	3
0.750	4.422	1	10	7
0.595	6.011	3	19	8
0.807	5.533	2	5	1
1.463	6.089	3	19	8
0.240	6.778	1	9	3
3.628	3.511	2	14	3
0.026	6.856	2	12	3
0.795	5.056	2	24	5
2.640	7.567	2	7	1
0.860	5.833	3	9	2
1.197	6.811	1	2	4
-0.392	7.511	2	6	1
2.274	3.678	2	16	1
0.395	6.533	2	14	1
0.490	6.056	2	13	8
0.495	4.978	1	2	1
1.131	4.544	2	10	0
1.047	4.356	1	13	1
0.735	6.700	3	7	1
0.965	5.756	3	16	1
0.534	5.789	3	7	2
2.253	4.322	1	2	0
0.858	5.787	2.000	10.560	2.840
			528	142

Table II: Correlation between political speech measures

	Optimism	Pessimism	Net optimism	Certainty	Activity	Transparency
Speech length	-0.057	-0.099	0.001	-0.017	-0.022	0.075
	(.260)	(.050)	(.980)	(.730)	(.660)	(.140)
Optimism		-0.067	0.869	-0.033	-0.263	-0.124
		(.190)	(.000)	(.510)	(.000)	(.010)
Pessimism			-0.552	0.033	-0.095	-0.024
			(.000)	(.520)	(.060)	(.640)
Net optimism				-0.044	-0.173	-0.092
				(.390)	(.000)	(.070)
Certainty					0.009	-0.025
					(.870)	(.620)
Ability						0.032
						(.540)

Table III: Firm-specific variables

								Announcement returns (%)			
State	Number of firms	Number of firm-years	Investment (% of assets)	Tobin's q	Employment (% of assets)	Cash (% of assets)	Size	(-1,+1)	(-3,+3)	(-5,+5)	(-2,+1)
ALABAMA	44	284	2.565	1.640712	0.495	4.148	6.6887	0.213	-0.103	0.153	0.035
ALASKA	4	32	5.355	1.233665	0.090	5.581	6.3492	1.727	1.268	2.763	2.555
ARIZONA	75	579	5.586	2.320093	0.840	-5.543	5.1418	-0.084	0.178	-0.632	0.181
ARKANZAS	21	64	7.099	1.802725	0.626	4.519	6.6125	0.680	0.325	1.098	0.597
CALIFORNIA	949	6,832	3.278	2.48173	0.479	-10.456	5.2934	0.113	0.349	0.578	0.185
COLORADO	142	1,026	7.519	2.165171	0.577	-5.434	5.1438	0.283	-0.194	0.124	0.155
CONNECTICUT	131	933	3.155	1.976349	0.386	-5.635	5.8981	0.283	0.223	0.361	0.525
DELAWARE	20	149	3.136	1.672396	0.167	-3.319	6.1764	0.854	1.796	1.728	1.105
FLORIDA	285	2,319	3.693	2.211245	0.698	-12.112	4.8832	0.081	-0.221	-0.263	-0.168
GEORGIA	161	1,289	3.068	1.806104	0.545	-2.037	6.0805	-0.084	0.134	0.447	0.127
HAWAI	11	89	4.587	1.399386	0.237	1.055	5.9805	-0.344	2.369	2.602	0.999
IDAHO	16	116	6.559	2.403632	0.515	-3.359	5.4013	-1.811	-2.214	-2.495	-1.474
ILLINOIS	231	1,902	3.077	1.849836	0.495	-0.477	6.4103	-0.192	-0.086	-0.073	0.000
INDIANA	85	731	2.454	1.439861	0.491	1.935	6.3074	-0.017	-0.308	0.418	-0.341
IOWA	32	270	2.118	1.438012	0.357	4.230	6.5068	-0.271	-0.902	-1.366	-0.684
KANSAS	33	278	4.514	1.680027	0.789	4.212	5.7185	0.081	-0.091	0.003	-0.213
KENTUCKY	43	310	3.970	1.639074	0.857	2.677	6.3314	-0.856	-0.156	0.144	-0.263
LOUISIANA	34	168	7.292	1.491223	0.287	8.955	6.732	-0.021	-0.593	-0.543	0.088
MAINE	13	84	2.162	1.414495	0.182	5.257	6.314	0.134	0.627	1.787	0.243
MARYLAND	108	803	2.576	2.056426	0.353	-5.828	5.7318	0.229	-0.199	-0.405	0.101
SSACHUSETTS	266	2,276	3.090	2.258151	0.491	-10.495	5.2558	-0.215	-0.901	-0.990	0.084
MICHIGAN	110	922	3.037	1.706903	0.584	1.218	6.3845	-0.220	-0.092	-0.006	-0.368
MINNESOTA	159	1,109	4.134	2.189902	0.774	1.469	5.2205	-0.643	-0.564	-0.814	-0.578
MISSISSIPPI	20	172	3.237	1.266051	0.334	1.190	6.5186	-0.473	-1.398	-1.487	-0.925
MISSOURI	86	771	3.945	1.833223	0.595	1.203	6.5829	-0.179	0.097	0.668	-0.329
MONTANA	7	29	6.180	3.008869	0.579	-2.604	4.8527	-0.139	0.973	-0.734	0.069
NEBRASKA	27	192	4.102	1.764425	0.584	-2.194	6.0278	0.260	-0.138	-0.087	0.063
NEVADA	55	293	5.761	2.680556	0.451	-20.996	4.767	0.562	0.410	0.670	0.424
W HAMPSHIRE	22	100	3.143	1.650878	0.337	-2.650	5.2342	-0.734	-0.040	0.596	-0.299
NEW JERSEY	283	2,035	2.820	2.39401	0.505	-12.983	5.0906	1.454	1.493	1.586	1.618
NEW MEXICO	7	54	3.934	1.872407	0.292	-10.090	5.8672	0.637	0.512	0.928	0.462
NEW YORK	516	3,794	2.621	2.043675	0.500	-4.120	5.739	0.009	-0.088	-0.249	-0.059
TH CAROLINA	108	333	3.112	1.730501	0.439	-1.444	6.2128	-0.180	-0.238	-0.214	-0.514
ORTH DAKOTA	5	25	3.347	1.153312	0.138	4.280	5.8529	1.633	-0.562	-2.225	1.902
OHIO	189	1,486	3.053	1.452618	0.588	1.715	6.472	0.350	0.220	0.276	0.209
OKLAHOMA	48	405	10.784	1.884602	0.329	6.500	5.9003	-0.040	0.187	0.729	0.156
OREGON	57	268	3.402	1.612292	0.436	-3.519	5.616	-0.650	-1.092	-1.008	-1.196
ENNSYLVANIA	265	1,389	3.021	1.735957	0.406	-0.773	6.3697	-0.008	0.205	0.230	-0.009
HODE ISLAND	16	120	3.642	1.757155	0.334	3.409	6.2082	0.020	-0.087	-0.020	0.042
TH CAROLINA	41	276	2.384	1.556521	0.645	2.201	5.9013	0.093	0.303	-0.823	0.059
UTH DAKOTA	7	55	8.744	2.412927	0.338	5.020	6.0755	-1.236	-3.199	-4.547	-1.929
TENNESSEE	80	511	4.641	1.570773	0.897	4.778	6.5328	-0.338	-1.864	-2.680	-1.028
TEXAS	499	1,518	6.803	2.406419	0.491	0.215	5.6643	-0.033	-0.465	-0.122	-0.113
UTAH	48	366	5.393	3.299079	0.660	-19.287	4.2444	-0.280	-0.196	-0.460	-0.250
VERMONT	8	62	4.452	1.469407	0.278	4.246	5.9927	0.131	0.118	0.260	-0.035
VIRGINIA	154	1,365	3.166	1.670382	0.499	-0.799	6.0062	-0.089	-0.346	-0.448	-0.089
WASHINGTON	118	937	3.501	2.274633	0.486	-10.841	5.4704	-0.337	1.958	2.089	-0.420
EST VIRGINIA	13	109	4.788	1.494889	0.235	3.236	6.1555	-0.144	0.760	0.594	-0.156
WISCONSIN	65	582	3.670	1.655768	0.486	3.481	6.3896	-0.182	-0.206	-0.492	-0.473
WYOMING	4	26	9.670	1.607886	0.478	1.252	4.2967	-0.874	1.411	1.587	-1.326
Average	114.420	796.760	4.347	1.871	0.473	-1.380	5.852	-0.017	-0.013	-0.015	-0.025
Total	5,721	39,838									

Table IV: Political Speech and Firms' Abnormal Returns

Dependent variable	CAR (-1,+1)				CAR (-3,+3)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Net optimism	0.016**		0.039**	0.013*	0.031**		0.086***	0.025
	(.059)		(.044)	(.083)	(.023)		(.005)	(.113)
Optimism		0.013*				0.047***		
		(.081)				(.005)		
Pessimism		-0.181				-0.012		
		(.203)				(.686)		
Certainty			0.010				0.017**	
			(.192)				(.053)	
Activity				0.008				0.012
				(.153)				(.153)
Certainty*Net optimism			0.004*				0.001**	
			(.067)				(.046)	
Activity*Net optimism				0.007*				0.005**
				(.100)				(.050)
Number of words	-0.236	-0.211	-0.246	-0.234	-0.161	-0.191	-0.246	-0.213
	(.411)	(.423)	(.350)	(.380)	(.701)	(.647)	(.350)	(.615)
Size	-0.021	-0.021	-0.014	0.014	-0.625	-0.626	-0.014	-0.592
	(.093)	(.093)	(.095)	(.095)	(.077)	(.076)	(.095)	(.098)
GDP per capita	-2.367	-2.462	-1.573	-2.296	-6.494	-6.001	-1.573	-6.354
	(.525)	(.510)	(.674)	(.542)	(.274)	(.311)	(.674)	(.288)
GDP growth	0.023	0.022	0.023	0.023	0.067	0.063	0.023	-0.073
	(.578)	(.590)	(.575)	(.591)	(.308)	(.334)	(.575)	(.273)
Unemployment	-0.198	-0.268	-0.186	-0.123	-0.223	-0.186	-0.186	-0.221
	(.066)	(.021)	(.094)	(.085)	(.023)	(.032)	(.094)	(.246)
R^2-adjusted	0.074	0.072	0.078	0.070	0.171	0.176	0.078	0.158
Number of state-years	378	378	378	378	378	378	378	378

Table V: Political speech and the investment and employment decisions of firms

Dependent variable	Investment/Assets (%)				Employment/Assets (%)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Net optimism	0.028***		0.008***	0.011***	0.005***		-0.002	0.004***
	(.000)		(.000)	(.000)	(.010)		(.180)	(.005)
Optimism		0.041***				0.032*		
		(.000)				(.074)		
Pessimism		`-0.026*				`-0.126*		
		(.100)				(.009)		
Certainty			0.005				-0.007	
			(.290)				(.217)	
Activity				0.002				0.032
				(.737)				(.333)
Certainty*Net optimism			0.004***				0.002***	
			(.010)				(.010)	
Activity*Net optimism				0.015***				0.001***
				(.001)				(.220)
Number of words	0.049	-0.046	-0.059	-0.030	0.905*	0.863*	0.880*	0.915*
	(.501)	(.583)	(.477)	(.718)	(.074)	(.089)	(.083)	(.071)
q	0.364	0.370	0.371	0.369	1.096	1.098	1.097	1.097
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Cash	0.014	0.014	0.014	0.014	-0.031	-0.031	-0.031	-0.031
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Size	-0.076	-0.068	-0.068	-0.069	4.502	4.503	4.502	4.504
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
GDP per capita	-2.257	-2.402	-2.491	-2.509	-2.245	-2.267	-2.427	-2.157
	(.000)	(.000)	(.000)	(.000)	(.089)	(.086)	(.067)	(.105)
GDP growth	-0.149	-0.150	-0.149	-0.151	-0.125	-0.122	-0.120	-0.117
	(.000)	(.000)	(.000)	(.000)	(.315)	(.327)	(.000)	(.349)
Unemployment	-0.242	-0.245	-0.260	-0.254	0.876	0.971	0.854	0.888
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Firm fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
R^2-adjusted	0.136	0.136	0.137	0.137	0.094	0.094	0.0943	0.0943
Number of firm-years	39,838	39,838	39,838	39,838	37,794	37,794	37,794	37,794

Notes: p values in parentheses

Table VI: Neighboring States Methodology

Dependent variable	Investment/ Assets (%)			Differential CAR (-1,+1)			Differential CAR (-3,+3)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Δ *Net optimism*	0.036	-	0.012	0.012	-	-	0.031	-	-
	(.000)		(.000)	(.000)			(.023)		
Δ *Optimism*	-	0.032	-	-	0.018	-	-	0.047	-
		(.000)			(.050)			(.005)	
Δ *Pessimism*	-	-0.022	-	-	-0.016	-	-	-0.012	-
		(.000)			(.220)			(.686)	
Δ *Certainty*	-		0.002	-	-	-0.002	-	-	-0.002
			(.050)			(.051)			(.091)
distance	0.125	0.129	0.127	0.714	0.725	0.712			
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)			
Firm level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 *-adjusted*	0.138	0.136	0.095	0.074	0.072	0.067	0.171	0.176	0.158
Number of firm-years	39,838	39,838	37,794						
Number of state-years				378	378	378	378	378	378

Table VII: Geographic Focus, Human Capital Intensity, and Government Contract Dependence

Dependent variable	Panel A: Investment/Assets (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Focused companies	Non-focused companies	High human capital	Low human capital	Government contract dependent	Government contract independent
Net optimism	0.036	0.02	0.062	0.03	0.070	0.01
	0.00	0.12	0.00	0.14	0.00	0.55
Number of words	-0.039	-0.041	-0.061	-0.010	-0.021	-0.003
	0.50	0.59	0.48	0.50	0.73	0.50
q	0.371	0.370	0.377	0.375	0.363	0.374
	0.00	0.00	0.00	0.00	0.00	0.00
Cash	0.011	0.008	0.018	0.023	0.019	0.021
	0.00	0.00	0.00	0.00	0.00	0.00
Size	-0.078	-0.059	-0.072	-0.076	-0.065	-0.073
	0.00	0.00	0.00	0.00	0.00	0.00
GDP per capita	-2.263	-2.395	-2.497	-2.528	-2.507	-2.547
	0.00	0.00	0.00	0.00	0.00	0.00
GDP growth	-0.153	-0.148	-0.145	-0.156	-0.149	-0.161
	0.00	0.00	0.00	0.00	0.00	0.00
Unemployment	-0.247	-0.247	-0.266	-0.275	-0.263	-0.256
	0.00	0.00	0.00	0.00	0.00	0.00
Firm fixed effects	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes
R^2-adjusted	0.142	0.127	0.130	0.141	0.146	0.145
Number of firm-years	7,977	31,861	19,919	19,919	19,919	19,919

Table VII: Geographic Focus, Human Capital Intensity, and Government Contract Dependence

Dependent variable	Panel B: Employment/Assets (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Focused companies	Non-focused companies	High human capital	Low human capital	Government contract dependent	Government contract independent
Net optimism	0.004	-0.002	0.006	0.001	0.003	0.002
	0.00	0.45	0.00	0.32	0.05	0.10
Number of words	0.282	0.237	0.216	0.2	0.22	0.195
	0.02	0.59	0.48	0.50	0.73	0.50
q	1.114	1.095	1.06	1.068	1.073	1.053
	0.00	0.00	0.00	0.00	0.00	0.00
Cash	-0.020	-0.052	-0.092	-0.08	-0.06	-0.076
	0.00	0.00	0.00	0.00	0.00	0.00
Size	3.445	3.409	3.4	3.365	3.362	3.389
	0.00	0.00	0.00	0.00	0.00	0.00
GDP per capita	-1.393	-1.43	-1.448	-1.448	-1.472	-1.476
	0.10	0.12	0.14	0.10	0.17	0.11
GDP growth	-0.102	-0.111	-0.143	-0.135	-0.118	-0.146
	0.33	0.00	0.00	0.00	0.00	0.00
Unemployment	0.560	0.51	0.494	0.489	0.465	0.479
	0.00	0.00	0.00	0.00	0.00	0.00
Firm fixed effects	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes
R^2-adjusted	0.142	0.127	0.130	0.141	0.146	0.145
Number of firm-years	6,222	31,572	18,897	18,897	18,897	18,897

Table VIII: Instrumental variable estimates

Dependent variable	Net Optimism	Investment/Assets (%)	Employment/Assets (%)
	stage 1	stage 2	stage 2
Instrumented Net optimism		0.113	0.012
		(.000)	(.000)
President - Governor Different Party	-0.406		
	(.050)		
Number of words		0.054	1.103
		(.450)	(.050)
q		0.332	1.022
		(.000)	(.000)
Cash		0.017	-0.068
		(.000)	(.000)
Size		-0.021	4.000
		(.000)	(.000)
GDP per capita	0.021	-1.108	-1.107
	(.050)	(.000)	(.150)
GDP growth	0.070	-0.122	-0.103
	(.330)	(.000)	(.650)
Unemployment	0.200	0.202	0.822
	(.140)	(.000)	(.000)
Firm fixed effects	no	yes	yes
Year fixed effects	no	yes	yes
State fixed effects	yes	no	no
R^2-adjusted	0.290	-	-
Number of firm-years	388	39,838	37,794

Notes: p values in parentheses

Table IX: Controlling for State-level political institutions

Dependent variable	Investment/Assets (%)			Employment/Assets (%)	
	(1)	(2)	(3)	(5)	(6)
Net optimism	0.038***	0.026***		0.007**	0.008**
	(.000)	(.000)		(.023)	(.024)
Term Limits	`-0.431***			-0.027	
	(.000)			(.132)	
Net optimism x Term Limits	`-0.301***			`-0.002*	
	(.000)			(.100)	
Years before election		0.085			-0.008
		(.110)			(.358)
Net optimism x Years before election		`-0.040***			`-0.001*
		(.000)			(.100)
Number of words	0.025	0.056	0.068	0.908	0.914
	(.765)	(.503)	(.437)	(.074)	(.074)
q	0.363	0.364	0.363	1.082	1.073
	(.000)	(.000)	(.000)	(.000)	(.000)
Cash	0.141	0.141	0.141	-0.034	-0.038
	(.000)	(.000)	(.000)	(.000)	(.000)
Size	-0.075	-0.076	-0.074	4.654	4.540
	(.000)	(.000)	(.000)	(.000)	(.000)
GDP per capita	-2.326	-2.335	-2.277	2.247	2.249
	(.000)	(.000)	(.000)	(.100)	(.100)
GDP growth	0.161	0.153	0.151	-0.121	-0.119
	(.000)	(.000)	(.000)	(.300)	(.380)
Unemployment	-0.252	-0.245	-0.223	0.872	0.879
	(.000)	(.000)	(.000)	(.000)	(.000)
Firm fixed effects	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes
R^2-adjusted	0.136	0.137	0.137	0.098	0.097
Number of firm-years	39,838	39,838	39,838	37,794	37,794

Table X: The relation between investment and net optimism through time

	Coefficient on Net Optimism	Number of firm-years
2002	0.015***	2,484
	(.000)	
2003	0.008	5,555
	(.160)	
2004	0.014***	4,745
	(.000)	
2005	0.009**	5,703
	(.030)	
2006	0.012***	4,127
	(.000)	
2007	0.020***	5,253
	(.000)	
2008	0.035***	4,239
	(.000)	
2009	0.028***	4,015
	(.000)	
2010	0.030***	3,717
	(.000)	