CEO POLITICAL IDEOLOGY AND CREDIT RISK ASSESSMENT

SHUO LI

Ph.D

The Hong Kong Polytechnic University

2017

The Hong Kong Polytechnic University
School of Accounting and Finance

CEO POLITICAL IDEOLOGY AND CREDIT RISK ASSESSMENT

Shuo Li

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of Doctor of Philosophy

April 2017

CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgment has been made in the text.

_____ (Signed)

Shuo Li _____ (Name of Student)

ABSTRACT

In this study, I examine the role of CEO political ideology in the credit rating process. Credit rating agencies release their research methodologies for determining corporate credit ratings and identify managerial conservatism as one important factor that affects their risk assessments. The extant literature, however, has not investigated the relation between credit ratings and managerial conservatism, which, according to behavioral consistency theory, can be proxied by CEO political ideology. I hypothesize and find that firms run by Republican-leaning CEOs, who tend to have conservative political ideologies, enjoy more favorable credit ratings than firms run by Democratic-leaning CEOs. This finding holds after controlling for potential endogeneity and self-selection concerns, and is robust to a battery of sensitivity checks. In addition, I find that the association between CEO political ideology and credit ratings is more pronounced for firms with high uncertainty of information environment and for firms with weak corporate governance. I further mitigate the concern that economic bonding between CEOs and credit rating agencies may drive the results. Finally, I identify future earnings volatility and future return volatility as two possible channels through which CEO political ideology affects credit ratings, and show that CEO political ideology has a residual effect on credit ratings after controlling for these two channel variables.

Keywords: *Credit Ratings, Default Risk, Republican Party, Democratic Party, Political Ideology, Managerial Conservatism, Behavior Consistency Theory*

Data Availability: *Data used are from public sources identified in this paper*

ACKNOWLEDGEMENTS

I would like to acknowledge and appreciate Prof. C.S. Agnes Cheng for her unwavering support and tireless guidance throughout my entire PhD studies. As my chief supervisor and life-time mentor, Prof. Cheng taught me every step of research and always had my back during the hardest time in my life. Without Prof. Cheng's support and encouragement, I would not have come this far.

I would also like to thank Linda Myers, Grace Pownall, Joanna Ho, Hong Xie, Wenli Huang, Yangyang Chen, Jingran Zhao, Nan Yang, Tony Zhang, Wang Dong, Wei Wang, and Weishi Jia for their generous support, constructive comments over my projects, and continuous interests in my research progress.

Table of Contents

LIST OF TABLES

CHAPTER 1 INTRODUCTION

As one of the vital information intermediaries in the debt market, credit rating agencies have been widely recognized by market participants (e.g., investors, regulators, business press, customers, suppliers, etc.) as the primary information source in evaluating the firms' default risk (Kisgen 2007). The credit ratings, which reflect the creditworthiness of the borrowers, mitigate the information asymmetry among lenders, investors, and borrowers. Early studies on the determinants of credit ratings mainly focus on the role of hard information, such as firm fundamentals, financial ratios, and accounting information, in the rating process (e.g., Horrigan, 1966; Kaplan and Urwitz, 1979; Bhojraj and Sengupta, 2003; Ashbaugh-Skaife et al., 2006). Only a few recent studies have examined whether and how credit analysts incorporate soft information, especially managerial attributes, into their risk assessment (e.g., Kuang and Qin, 2013; Bonsall et al., 2016). In this study, I extend this strand of study by investigating the role of CEO political ideology in the credit rating process.

Textbook defines political ideology as a "*set of beliefs about the proper order of society and how it can be achieved*" (Erikson and Tedin, 2003). It is a belief system that is established in individuals' early adulthood, and is relatively coherent and stable over time (Green et al., 2002; Jost, 2006; Jost and Amodio, 2012). In the U.S., political ideology is situated on a left-right or liberal-conservative spectrum. Research in political science and psychology finds that individuals with different political ideologies have different psychological or

personality traits (Carney et al., 2008). Behavioral consistency theory further show that individuals behave consistently across different domains (Epstein, 1979, 1980; Funder and Colvin, 1991), suggesting that individuals would translate their political conservative (liberal) attitudes in business decision making. Several recent studies provide evidence consistent with this theory. For instance, Hutton et al. (2014) document that Republican firms have lower levels of leverage, less risky investments, and higher profitability than Democratic firms;[1] Christensen et al. (2015) show that Republican firms engage in less tax avoidance than Democratic firms; Elnahas and Kim (2016) show that Republican firms engage in fewer mergers and acquisitions activities and they prefer avoiding acquisitions with high information asymmetry. Cheng et al. (2017) document that Republican firms report more conservatively than Democratic firms.

Credit rating agencies (e.g., Fitch Group, Standard & Poor's, Morningstar, etc.) release their research methodologies for determining corporate credit ratings, which identify managerial conservatism as one important factor that affects their risk assessments. For example, as in the report released by Morningstar Credit Ratings, their analysts evaluate the firm's ability to meet its debt obligations through four broad aspects: "*business risk, cash flow cushion, solvency score, and distance to default*". Under the business risk evaluations, Morningstar analysts "*place particular emphasis on how conservative a*

[1] A Republican-leaning (Democratic-leaning) CEO is a CEO whose personal political ideology is aligned with the political ideology of the Republican (Democratic) Party. As explained in more details below, I use a CEO's federal-level personal political contributions to the Republican Party relative to the Democratic Party to gauge whether the CEO is Republican-leaning or Democratic-leaning.

management team is in managing its balance sheet, its policies with regards to share buybacks and dividends, its tendency toward M&A activity, and other factors affecting bondholders". As explained above, CEO political ideology can serve as a useful proxy for managerial conservatism according to behavioral consistency theory.[2] Although the prior literature has accumulated abundant evidence on the determinants of credit ratings, it has not explored whether the business risk is related to a firm's managerial conservatism. I fill this gap by investigating whether and how credit analysts take into account CEO political ideology in their rating decisions.

I expect that credit rating agencies perceive Republican firms as having lower default risk and assign Republican firms more favorable credit ratings than Democratic firms. My prediction is based on two streams of literature. First, studies on credit ratings establish a link between certain managerial attributes and credit rating scores. For example, Kuang and Qin (2013) show that the managerial incentives for risk taking affect credit ratings, suggesting that credit analysts incorporate CEO equity incentives into their risk assessment model because CEO equity incentives encourage executive risk-taking and increase the probability of default. Bonsall et al., (2016) find that managerial ability in transforming corporate resources to revenues is associated with more favorable credit ratings. Second, studies on CEO political ideology find that firms with

[2] Credit rating agencies can assess CEO political ideology *ex ante* by observing CEOs' behaviors, interviewing with them, inquiring related persons, inspecting records or documents. For example, creditors can assess CEOs' political ideologies by examining their political contribution records, their speeches or public news (e.g., http://archive.fortune.com/galleries/2012/fortune/1205/gallery.500-CEO-political-donations.fortune/index.html; http://www.cbsnews.com/news/google-political-donations-where-company-execs-put-their-cash).

republican CEOs tend to have lower leverage, less risky investments, higher profitability (Hutton et al., 2014), lower tax avoidance (Christensen et al., 2015), fewer mergers and acquisitions activities especially those with high information asymmetry (Elnahas and Kim, 2016), and more conservative accounting (Cheng et al., 2017). These findings suggest that due to pursuing more conservative operating, investing, and financing strategies, Republican firms face a lower business risk, and thus pose a lower default risk to credit rating agencies. Therefore, I expect credit analysts to assign more favorable credit ratings to Republican firms.

I follow prior studies (e.g., Hutton et al., 2014; Christensen et al., 2015; Elnahas and Kim, 2016; Cheng et al. (2017) and construct CEO political ideology proxy based on CEOs' federal-level individual campaign contributions to the Republican Party relative to the Democratic Party. In particular, I calculate the CEO-level political ideology index (REP_{AVG}). The value of REP_{AVG} varies from –1 (all campaign contributions are made to the Democratic Party) to +1 (all campaign contributions are made to the Republican Party). A positive (negative) value of REP_{AVG} indicates that the CEO is leaning towards Republican Party (Democratic Party) and thus embraces the political conservatism (political liberalism) attitude.

Using a sample of 5,211 observations from S&P 500 firms during 2001 to 2012, I regress the proxy for default risk on a CEO political ideology measure as well as many commonly used determinants of default risk. I find that after controlling for common determinants of default risk, firms run by Republican-leaning CEOs, who tend to be politically conservative, are associated with lower

default risk, on average, compared to firms run by Democratic-leaning CEOs. This finding is consistent with my main hypothesis.

Endogeneity is one potential concern for my study, because Republican-leaning CEOs may be attracted to firms with certain omitted firm characteristics, which are associated with lower credit risk. I conduct three tests to mitigate this concern. First, I follow prior studies (e.g., Ahmed and Duellman, 2013; Hutton et al., 2014; Christensen et al., 2015) and use CEO turnover as a firm-specific shock. I find that when a Republican-leaning (Democratic-leaning) CEO replaces a Democratic-leaning (Republican-leaning) CEO, the firm receives less (more) favorable credit ratings after CEO turnover. Second, I following Hutton et al. (2015) and use the instrumental variable approach to mitigate the potential endogeneity concern. The main result is qualitatively unchanged. Finally, I use the attribute-matched sample approach. I match each Democratic firm with a Republican firm in the same year and the same industry whose total assets are closest to its Democratic counterpart. I re-estimate the main credit rating model using this matched sample and find that the result is unchanged.

In the additional analyses, I first extend the main finding by investigating whether the effect of CEO political ideology on credit ratings varies cross-sectionally conditional on the degree of information environment uncertainty and the strength of firms' corporate governance. Following Bonsall et al. (2016), I first use past return variability, capital intensity, and firm growth as proxies for the uncertainty of information environment. I find that the association between CEO political ideology and credit ratings is more pronounced in firms where information uncertainty is high, consistent with the spirit of Bonsall et al. (2016)

that CEOs are more likely to imprint their political ideologies on firms if they are likely to have a greater impact on corporate outcomes. Similarly, I use alternative proxies for corporate governance, such as institutional ownership stability, the level of dedicated institutional ownership, and governance index from Gompers et al. (2003), and find that the association between CEO political ideology and credit ratings is more pronounced when corporate governance is weak.

Second, economic bonding is also a potential concern when investigating the effect of managerial attributes on credit ratings, because certain CEOs may have a stronger positive influence on the decision-making process of the issuer-pay credit rating agencies. To mitigate the concern that it is the economic bonding between CEOs and credit rating agencies that drives the results, I follow the research design from Bonsall et al. (2016) and find no significant difference in magnitude of the association between CEO political ideology and credit ratings (1) across subsample with long-tenure CEOs versus subsample with short-tenure CEOs, and (2) across subsample with credit ratings around the investment grade cutoff versus subsample with credit ratings in other categories. This evidence suggests that economic bonding is unlikely to affect my main findings.

Third, I examine two potential channels through which CEO political ideology affects credit ratings. In particular, I examine whether CEO political ideology affects credit ratings through the impact on firm's future earnings volatility and firm's future returns volatility, following the approach outlined in Baron and Kenny (1986) and He and Tian (2013). First, I find that both future earnings volatility and future returns volatility are lower for firms with

Republican-leaning CEOs than firms with Democratic-leaning CEOs. Second, I show that lower future earnings volatility and future returns volatility are both associated with lower default risk. These findings suggest that when CEOs' political ideologies are Republican-leaning, their future earnings volatility and future returns volatility are lower, which, in turn, lead to lower default risk. In addition, I find that CEO political ideology remains significantly related to credit ratings even after we include the two channel variables in the regression, suggesting that there is a residual effect of CEO political ideology on credit ratings after controlling for these two channels, i.e., the effect of CEO political ideology on credit ratings is not limited to these two channels only.

Finally, the main result is robust to a battery of sensitivity analyses, including (1) controlling for CEO equity incentives and CEO ability, which are two important managerial attributes that have been documented to affect credit ratings; (2) using the likelihood of receiving speculative-grade ratings as the dependent variable (3) using alternative measures of CEO political ideology; (4) using subsample that excludes observations with CEO making contributions to both parties; (5) controlling for state fixed effects; and (6) controlling for firm fixed effects.

This dissertation contributes to the prior literature in two major ways. First, it contributes to the credit rating literature. This line of studies has documented extensive evidence on the determinants of credit ratings. However, early studies largely focus on the role of hard information, such as firm characteristics and accounting information. Recent studies begin to investigate whether credit rating agencies incorporate soft information in their rating

decisions, such as executive equity risk-taking incentives (Kuang and Qin, 2013) and managerial ability (Bonsall et al., 2016). As released in their research methodologies for determining corporate credit ratings, credit rating agencies identify managerial conservatism as one important factor that affects their risk assessments. The extant literature, however, has not investigated the relation between credit ratings and managerial conservatism, which can be proxied by CEO political ideology. I document that credit rating agencies incorporate managerial conservatism in credit rating decisions. The findings suggest that CEO political ideology serves as a meaningful aspect of managerial conservatism and that credit analysts could examine CEO political ideology, through CEOs' personal political contributions, as part of their assessment of managerial conservatism.

I also contribute to the emerging literature on CEO political ideology. Prior studies show that CEOs' political ideologies influence their corporate decisions and therefore corporate outcomes, such as corporate social responsibility (Chin et al., 2013), financing and investing policies (Hutton et al., 2014), tax avoidance (Christensen et al., 2015), mergers and acquisition decisions (Elnahas and Kim, 2016), and accounting conservatism (Cheng et al. 2017). However, little is known about how a third party outside the firm perceives CEO political ideology. I attempt to add empirical evidence to this aspect by focusing on whether credit rating agencies take into account their client CEO's political ideology in their credit rating decisions.

The remainder of the paper is organized as follows. I provide literature review and hypothesis development in Chapter 2. Chapter 3 discusses the data

and research design. Chapter 4 presents the empirical results. Chapter 5 provides results of additional analyses. Chapter 6 provides results of robustness tests. I conclude in Chapter 7.

CHAPTER 2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Literature Review

2.1.1 Behavioral Consistency Theory

According to behavior consistency theory (e.g., Epstein, 1979, 1980; Funder and Colvin, 1991), individuals behave consistently across different domains. Recent studies provide evidence consistent with behavioral consistency theory. Cronqvist et al. (2012) document that CEOs' personal leverage (as indicated by the mortgage for their primary residences choices) can be used as a good indicator for their corporate leverage, suggesting the behavioral consistency between CEOs' personal preference and their preference in corporate decisions. Following the methodology developed in Dhaliwal et al. (2009) and Cicero (2009), Chyz (2013) identifies managers suspected individual tax evasion using their manipulative stock option exercise backdating. He finds that the presence of suspect executives, who evade personal taxes, are more likely to have corporate tax shelter involvement. To further show that it is the suspected manager who makes the corporate tax sheltering decision, Chyz (2013) finds that tax sheltering probability is higher during the suspected manager's employment with the firm.

Davidson et al. (2015) use executives' prior legal infractions to proxy for their risk taking attitude and use executives' ownership of luxury goods to proxy for their level of frugality. They find that firms run by CEOs or CFOs with prior legal infraction records are more likely to perpetrate fraud. Moreover, they find

that firms run by CEOs with low frugality have high and increasing probabilities of other insiders perpetrating fraud and unintentional material reporting errors during the tenure of unfrugal CEOs. In a similar vein, Cain and McKeon (2016) use CEOs' ownership of private pilot licenses to measure his/her personal risk-taking. They find that for CEOs with pilot licenses, their firms are associated with higher financial leverage, higher propensity for acquisitions, and higher equity-based executive compensation.

Graham et al. (2013) take another approach to study the relation between managerial psychological attitudes and corporate financial policies. They survey CEOs and CFOs in both public and private sectors to measure alternative aspects of psychological traits. Their results demonstrate that executives' psychological attitudes are significantly associated with some standard corporate policies, such as leverage, debt maturity, and acquisitions. In sum, the evidence discussed above suggests consistency between executives' "off-the-job" behavior and their "on-the-job" behavior.

2.1.2 Political Ideology, Personality Traits, and Managerial Risk-Taking

Textbook defines political ideology as a "*set of beliefs about the proper order of society and how it can be achieved*" (Erikson and Tedin, 2003). It is a belief system that is established in individuals' early adulthood, and is relatively coherent and stable over time (Green et al., 2002; Jost, 2006; Jost and Amodio, 2012). In the U.S., political ideology reflects an individual's stance on the liberal-conservative or left-right continuum, and conservatism (liberalism) is the hallmark of the Republican (Democratic) Party. Individuals who tend to embrace

the core value of the Republican (Democratic) Party tend to have conservative (liberal) political ideology (Abramowitz and Saunders, 2006).

Prior studies in political science suggest that individuals with different political ideologies have different psychological or personality traits. Carney et al. (2008) summarize the vast literature in the past 75 years and report that "*liberals are more open-minded, creative, curious, and novelty seeking, whereas conservatives are more orderly, conventional, and better organized.*" In support of Carney et al.'s (2008) view, Block and Block (2006) conduct a longitudinal study on a sample of nursery school children. They find that three year-olds who are identified as relatively liberal 20 years later were rated by teachers as developing close relationships, self-reliant, energetic, somewhat dominating, relatively under-controlled, and resilient. In contrast, three year-olds who are identified as relatively conservative 20 years later were rated as feeling easily victimized, easily offended, indecisive, fearful, rigid, inhibited, and relatively over-controlled, and vulnerable.

Further, Shook and Fazio (2009) conduct an experiment where participants play a computer game, BeanFest. The objective of participants is to earn points by deciding which beans to accept or to reject. Beans of different shapes have either a positive (good) or negative value (bad), which varies across the shape. When accepted, the value of the bean of a particular shape is revealed and the participant's accumulated points will increase or decrease by the value of the bean. If rejected, the participant's accumulated points remain unchanged. However, the participant does not receive any information about the rejected bean regarding its value. The game is played multiple times. Shook and Fazio

(2009) find that conservatives are more cautious than liberals in that they sample fewer targets. By rejecting more beans, conservatives succeed in avoiding beans with negative values in the current game, but also forego the opportunities to learn the values of these particularly shaped beans, which can be used to earn more points in subsequent games. Consequently, conservatives do not gain as much information about the beans and any negative misconceptions are not corrected by subsequent sampling. In contrast, liberals are significantly more exploratory than conservatives in that they accept more beans at the risk of losing points at the current game. Consequently, liberals gain more balanced information about the beans. In summary, the findings in the above two studies are consistent with Carney et al. (2008) and provide further evidence for a link between political ideology and personality traits.

Prior literature also suggests that political conservatism (liberalism) is associated with risk-aversion (risk-taking). Wilson (1973) defines conservatism as "*resistance to change and the tendency to prefer safe, traditional and conventional forms of institutions and behavior*" (p. 4). Jost et al. (2003, 2007) show that people with conservative political ideology more likely to avoid uncertainty, suggesting a negative relation between political conservatism and uncertainty tolerance. Kam and Simas (2010) report that individuals with liberal views (Democrats) are more likely to be risk-loving than individuals with conservative views (Republicans).

Behavioral consistency theory predicts that individual conservatism (liberalism) in the political domain will translate itself into the business domain and other domains. Several recent studies in finance exploit this insight and

examine the role of CEO political ideology in corporate decisions and outcomes. Hutton et al. (2014) document that firms with Republican-leaning managers, who are politically conservative, have lower levels of corporate debt, lower capital and R&D expenditures, and less risky corporate investments. Elnahas and Kim (2016) further show that Republican firms are less likely to engage in mergers and acquisitions activities and they prefer avoiding acquisitions with high information asymmetry.

Furthermore, several recent studies extend this line of research to the accounting field. Christensen et al. (2015) investigate whether managers' personal political ideologies help explain tax avoidance at the firms they run. They find that Republican firms engage in less tax avoidance than Democratic firms. Similarly, Francis et al. (2016) document that firms with Republican CEOs have lower tax shelters than firms with Democratic CEOs. This suggests that Republican-leaning managers are conservative with their corporate tax strategies. Cheng et al. (2017) investigate the role of CEO political ideology in financial reporting practice. Consistent with behavioral consistency theory, they find that firms run by Republican CEOs, who tend to be politically conservative, report more conservatively in their financial statement than firms run by Democratic CEOs.

2.1.3 Determinants of Credit Rating

Credit rating agencies serve as one of the most vital information intermediaries in the debt market. They provide credit ratings which reflect the creditworthiness of the borrowers to mitigate the information asymmetry among

lenders, investors, and borrowers. Early studies on the determinants of credit ratings mainly focus on the role of hard information (e.g., firm fundamentals, accounting information) in the rating process. For example, Horrigan (1966) shows that accounting data and financial ratios (e.g., long-term solvency ratio, long-term capital-turnover ratio, profit margin ratio, etc.) are useful in determining long-term credit ratings. Kaplan and Urwitz (1979) further identify several firm characteristics, such as firm size, leverage, profitability, interest coverage ratio, as common fundamental factors that affect the credit ratings. In accounting literature, recent studies investigate how the quality of earnings affects credit ratings. Ayers et al. (2010) document that credit analysts interpret the positive changes in book-tax differences as a signal of low earnings quality or increased off-balance sheet financing, making them alter their credit ratings to this type of firms to less favorable. Alissa et al. (2013) find that managers actively manipulate earnings upwards (downwards) to affect the credit ratings when their actual ratings are below (above) the expected ratings. Similarly, Jung et al. (2013) focus on income smoothing, another earnings management mechanism, and document that managers use income smoothing to manipulate the likelihood of a subsequent credit rating upgrade.

Effective corporate governance also plays an important role in the credit rating process. Bhojraj and Sengupta (2003) identify institutional ownership and percentage of outside directors as two effective corporate governance mechanisms, which have an impact on the firms' default risk and thus credit ratings. Ashbaugh-Skaife et al. (2006) further document that firms with a fewer number of blockholders, weaker shareholder rights, higher accruals quality and

higher timeliness of earnings, higher board independence, higher board stock ownership, stronger board expertise, or lower CEO power on the board, enjoy more favorable credit ratings. As another important information intermediary in the capital market, financial analysts also play an effective monitoring role in reducing the default risk of firms and in turn affecting credit ratings. More recently, Ham and Koharki (2016) show that credit analysts downgrade their credit ratings for firms appointing the corporate general counsels to senior management. The reason is that these appointed corporate general counsels may lose their attentions to the gatekeeping responsibilities and thus increase the credit risk of their firms.

Compared with a large number of studies focusing on the hard information, only limited evidence has been provided on the role of soft information, especially the CEO attributes, in the credit rating process. Kuang and Qin (2013) show that the managerial compensation incentives for risk taking affect credit ratings, suggesting that credit rating agencies incorporate CEO equity incentives (proxied by delta and vega) into their risk assessment models, because CEO equity incentives encourage executive risk-taking and increase the probability of default. Bonsall et al. (2016) find that managerial ability in transforming corporate resources to revenues is associated with more favorable credit ratings.

2.2 Hypothesis Development

Prior studies show that Republican-leaning CEOs are more conservative than Democratic-leaning CEOs in corporate operating, investing, and financing

policies (Hutton et al., 2014), in risk attitude toward tax avoidance (Christensen et al., 2015), and in corporate financial reporting (Cheng et al., 2017). Consequently, firms run by Republican-leaning CEOs are likely to have lower financial leverage, lower capital and R&D expenditures, less risky investments, higher profitability, less tax avoidance, and more conservative financial reporting. Credit rating agencies could perceive all of these characteristics as a positive signal for Republican firms, which leads to a reduction of the default risk for Republican firms, on average.[3] I, therefore, expect credit rating agencies to assign more favorable credit ratings to Republican firms than to Democratic firms. The hypothesis is stated below:

Hypothesis: *Firms run by Republican-leaning CEOs are associated with lower default risk than firms run by Democratic-leaning CEOs.*

[3] I emphasize that the difference in risk-taking between Republican-leaning (or conservative ideology) CEOs and Democratic-leaning (or liberal ideology) CEOs is a relative one. As in Christensen et al. (2015), I am not suggesting that Republican-learning CEOs are not taking risk or Democratic-leaning CEOs are taking excessive risk; I only suggest that Republican-leaning CEOs, *on average*, have relatively lower risk tolerance than Democratic-leaning CEOs.

CHAPTER 3 RESEARCH DESIGN

3.1 Data and Sample Selection

3.1.1 Campaign Contribution Data

Following the methodlogy applied in prior literature, my study uses CEO personal campaign contributions to proxy for a CEO's political ideology. Studies in political science have been viewing campaign contributions at individual level primarily as a form of political consumption not as a form of political investment (Ansolabehere et al., 2003; Chin et al., 2013). Accrding to their personal campaign contribution patters, indiviudals can be categorized as either Repbulican-leaning or Democratic-leaning if they contribute predominately to one party over the other. Consequently, studies have been applying personal-level political contributions as a proxy for donors' personal political preferences, values, orientations, or ideologies (e.g., Hutton et al., 2014; Christensen et al., 2015).

Campaign contribution activities in the U.S. are highly restricted by federal campaign finance laws. In 1971, the Federal Election Campaign Act (FECA) was passed to improve the disclosure transparency for federal campaign contributions. In 1974, Congress amended the FECA to set limits on contributions by individuals, political parties, and political action committees (PACs). See details of federal campaign contribution limits in Appendix B. Also, the 1974 amendments created the Federal Election Commission (FEC), an independent regulatory agency to administer and enforce the FECA. Under FEC,

individuals have the choice to make campaign contributions to different types of recipients, including party committees, candidate, and other political interest groups. Such political interest groups usually include business corporations, labor unions, trade associations, health organizations, and other groups with ideological missions. The FEC requires the filings of campaign contributions on each transaction over $200, and then makes the raw data publicly available online (http://www.fec.gov).

Many prior studies obtain political contribution data from the FEC website (e.g., Di Giuli and Kostovetsky, 2014; Hutton et al., 2014). The FEC data on individual contributions includes donor's biographical information (name/address/occupation), transaction information (date/money amount), and recipient's information. However, one limitation of the FEC data is that it does not provide a unique identifier for each individual donor, and the only way to find individual donation records is to search using donors' biographical information. Moreover, the FEC data itself has two potential problems: data incompleteness and data errors. For instance, some observations have no information on donors' occupation or employer. Some observations have alternative misspellings on donors' names.

Instead of obtaining the CEO campaign contribution data directly from the FEC website, I follow prior studies (i.e., Chin et al., 2013; Fremeth et al., 2013) and collect political contribution data from the website of Center for Responsive Politics (www.opensecrets.org), which is a non-partisan research institute for US campaign activities. The CRP reports the same data provided by the FEC beginning from 1990 but provides an advanced search function that

makes the data collection much more efficient and accurate. In particular, it helps us get contributor's information easily and track the transaction records that help us find missing or erroneous information about contributors through cross reference.

3.1.2 Sample Selection

Individuals can choose to make campaign contributions directly to the final recipients, such as election candidates, party committees, or other PACs. Alternatively, individuals can contribute indirectly through their own firms' corporate PACs. Only direct personal contributions reveal an individual's political orientation and ideology because the individual has the full control on which candidates or parties to contribute to. In contrast, as a vehicle of the political investment at the firm level, corporate PAC is expected to strategically select the contribution recipients in a way that maximizes benefits for affiliated firms. According to the FEC, each corporate PAC has an operating team, and most of the team members are firm's senior executives, such as VP Finance and VP Public Relations. Decisions to distribute PAC contributions are usually made by the same group of top managers in charge of ordinary business decisions. As a result, corporate PACs usually make contributions simultaneously to both parties to hedge risks and corporate PAC contributions may not reflect individual's personal political ideologies. I collect only CEOs' personal contributions without including their contributions paid to their firms' own corporate PACs.

I follow the procedure in Fremeth et al. (2013) and do the manual matching between the biographic information of CEOs from the ExecuComp database and the biographic information of contributor from the CRP website.[4] Specifically, I download the list of historical S&P 500 CEOs for the period of 2001-2012 from the Compustat ExecuComp database, and use this list with each CEO's biographical information to obtain personal political contributions from the CRP database. Following prior literature (e.g. Hutton et al., 2014; Jiang et al., 2016), I collect all personal contribution transactions to either the Republican or the Democratic candidates and party committees. I exclude contributions to recipients that are not affiliated with either party.

I aggregate these transaction records by CEO and election cycle, and construct a dataset consisting of CEO-cycle observations for their campaign contributions. This dataset covers the individual contributions from all individuals who had ever been S&P 500 CEOs across the 6 election cycles from 2001 to 2012. In this study, I only focus on the sample of S&P 500 CEOs for two reasons. First, executives in small firms are less likely to make campaign contributions, and therefore it is unusual to obtain their contribution records. Second, the manual collection of contribution data is very time-consuming, making full coverage of the S&P 1500 CEOs unrealistic. To fulfill our panel data requirement, each CEO has an observation in a particular election cycle. For those cycles without any contribution, I mark the contribution amount as zero. Then, I merge the CEO contribution dataset with the ExecuComp database by

[4] Prior studies (e.g., Hutton et al., 2014; Christensen et al., 2015) use a computer algorithm to match the executives from the Compustat ExecuComp database and the contributors from the FEC (or CRP) database and then visually inspect those with an imperfect matching score to verify matching accuracy.

executive ID and date to narrow down the CEO donations into the period when they are in office. For each observation, I classify the total amount of contributions in an election-cycle by a CEO into amount to Republican recipients and amount to Democratic recipients. If the total amount (or the component amount) of contributions is greater than the FEC regulated upper limit in the election-cycle, it is set to the upper limit.[5] If the total or component amount is negative, it is set to zero.[6]

Finally, I merge the CEO contribution dataset with the Compustat database to obtain long-term credit rating data and accounting data by firm and year. Note that the CEO contribution dataset is CEO-firm-cycle-specific and Compustat data is firm-year-specific. For the purpose of regression analysis, I convert the CEO-firm-cycle observations into the firm-year observations by distributing the total contribution within an election cycle evenly into two annual contributions of that election cycle. Consistent with prior literature, I eliminate the firms in financial industry (SIC code 6000-6999) from my sample. My final sample contains 5,211 CEO-firm-year observations representing 533 historical S&P 500 firms and 1,002 individual CEOs during years 2001-2012. I winsorize all continuous variables at both the top and the bottom one percentile.

[5] The individual contribution limits generally increase over time to adjust for inflation. For example, individual contribution limits for the 2015-2016 federal elections are $2,700 to a candidate or the candidate committee and $33,400 to a national party committee per year (See details in Appendix B).

[6] The negative amounts may be attributed to asynchronous recording of donation and refund. For instance, when an individual's total contributions in an election-cycle exceed the limits, the refunds from the recipients might be processed and recorded in the next election-cycle rather than the same election-cycle.

3.2 Measurement of CEO Political Ideology

Following prior literature (e.g., Hutton et al., 2014; Christensen et al., 2015), I measure CEO political ideology by his or her personal political contributions. I first construct a CEO political ideology index for each CEO-cycle observation, *REP*. *REP* is calculated as the difference between the amount of CEO's personal contributions to the Republican Party and the amount of CEO's personal contributions to the Democratic divided by the total amount of personal contributions to both parties. *REP* is a CEO-cycle-specific measure. A positive (negative) *REP* indicates that the CEO lean towards the Republican (Democratic) Party because he or she contributes more to the Republican (Democratic) Party.

Next, I follow Christensen et al. (2015) and construct the average political ideology index, REP_{AVG}, as the main measures of a CEO's political ideology. REP_{AVG} is a CEO-specific measure, calculated as the mean of a CEO's *REP* during CEO's tenure with the firm. The application of the average political ideology index at CEO level better captures CEO's true political ideology, because according to its definition, political ideology should be stable and coherent over time. Further, the average political ideology index would mitigate the potential measurement error in *REP*, which may fluctuate across election cycles. By construct, the value of REP_{AVG} ranges from –1 to +1 where a value of +1 (-1) indicates that all contributions are made to the Republican Party (the Democratic Party).

In addition, I adopt three alternative measures of a CEO's political ideology in the robustness tests. First, I construct an indicator variable, REP_{IND}, which is equal to one if $REP_{AVG} > 0$, and zero otherwise. Thus, REP_{IND} equal to one indicates that the CEO is Republican-leaning and REP_{IND} equal to zero indicates that the CEO is Democratic-leaning.[7] The second measure REP_{PCT} is defined as the net amount of cumulative campaign contributions made by a CEO to the Republicans across election cycles, divided by the total amount of campaign contributions cumulative to both the Republicans and the Democrats across cycles. The value of REP_{PCT} ranges from -1 to +1, with a higher value indicating more individual orientation to the Republican Party. Finally, one concern that the CEO-specific measures may suffer from a look-ahead bias problem. Therefore, I use CEO-election-cycle-specific measure, *REP*, as the last measure for robustness to mitigate this look-ahead bias concern.

3.3 Empirical Model

To investigate the effect of a CEO's political ideology on credit rating that his or her firm receives, I estimate the following regression model:

$$\begin{aligned} RATING = {} & b_0 + b_1\, REP_{AVG} + b_2 ROA + b_3 LEV + b_4 COVER + b_5 SDNI + b_6 LOSS \\ & + b_7 INTAN + b_8 \Delta EQ + b_9 RET + b_{10} SDRET + b_{11} BM + b_{12} SIZE + b_{13} PRC \\ & + b_{14} ABACC + b_{15} NANAL + \text{Year indicators} + \text{Industry indicators} + \varepsilon \end{aligned} \quad (1)$$

where *RATING* = Standard & Poor's long-term issuer credit rating for firm i at the end of year t ranging from 1 to 20, where 1 represents AAA and 20 stands for

[7] In my final sample of 5,211 observations, there are 123 observations with REP_{AVG} equal to zero. That is, CEOs in these cases contribute equal amounts to both Republican Party and Democratic Party. These CEOs have neutral political ideology, but are included in the Democratic-leaning group ($REP_{AVE} <= 0$). None of the results is qualitatively changed if I exclude these neutral CEO observations.

default, and REP_{AVG} is firm i's CEO political ideology as defined earlier. The primary variable of interest in Equation (1) is REP_{AVG}. A significantly negative coefficient on REP_{AVG} (i.e., $b_1 < 0$) is consistent with H1.

To account for factors that are likely to affect corporate bond ratings, I include several firm-specific control variables to separate the effect of CEO political ideology on credit ratings. Following prior studies (e.g., Cheng and Subramenyam, 2008; Kuang and Qin, 2013), the set of control variables included in Equation (1) are as follows*:* return on assets (*ROA*), leverage ratio (*LEV*), interest coverage (*COVER*), earnings volatility (*STNI*), loss incidence (*LOSS*), intangible assets (*INTAN*), change in shareholder equity (Δ*EQ*), stock return (*RET*), stock returns volatility (*SDRET*), book-to-market ratio (*BM*), firm size (*SIZE*), stock price per share (*PRC*), absolute value of abnormal accruals (*ABACC*), and analyst coverage (*NANAL*).

Specifically, *ROA*, *LEV*, *COVER*, and *STNI* are included as control variables because they are common proxies for firm performance and in turn associated with firm's default risk (Kaplan and Urwitz, 1979). *ROA* is measured as income before extraordinary items divided by total assets at the end of the year, *LEV* is measured as the ratio of long-term debt plus short-term debt to total assets at the end of the year, *COVER* is measured as the ratio of operating income before depreciation to interest expense, and *STNI* is measured as the standard deviation of income before special items scaled by total assets at the end of the year over the prior five years. Lower values of *ROA* and *COVER* and higher values of *LEV* and *STNI* capture higher default risk. In addition, firms that do not report profits are likely to have higher default risk. Thus, I include *LOSS*,

which is an indicator variable that equals one if net income before special item at the end of the year is negative, and zero otherwise. As credit rating agencies differentiate intangible assets from tangible assets when assessing the credit risk, I include *INTAN*, which is calculated as R&D expense plus advertising expense scaled by total assets at the end of the year. Δ*EQ* is an indicator variable that equals one if a change in shareholder equity during the year is greater than zero, and zero otherwise. It captures equity capital raised during the year. I include Δ*EQ* because access to equity finance is shown to be an important factor in determining credit ratings.

Besides, I control for several market-based measures of financial risk, which is related to credit ratings (Francis et al., 2005 and Bhojraj and Segupta, 2003). In particular, *RET* is the buy-and-hold raw return over the past 36 months, *SDRET* is the standard deviation of the monthly return over the past 36 months, and *BM* is the book-to-market ratio at the end of the year. Given that larger firms and firms with higher stock price generally have lower default risk, I control for *SIZE* calculated as the natural log of the firm's total market value at the end of the year and *PRC* calculated as the mean daily closing price per share over the fiscal year.

Following Cheng and Subramanyam (2008), I control for the absolute value of abnormal accruals as a proxy for information risk and analyst following as a proxy for external monitoring, which are shown to be associated with credit ratings. Abnormal accruals are estimated from the modified Jones (1991) model:

$$\frac{TACC_t}{TA_{t-1}} = \varphi_1 \frac{1}{TA_{t-1}} + \varphi_2 \frac{(\Delta REV_t - \Delta REC_t)}{TA_{t-1}} + \varphi_3 \frac{PPE_t}{TA_{t-1}} + \epsilon_t$$

where *TACC* is the total accruals, measured as income before extraordinary items less cash flows operating less cash flows from extraordinary items (Hribar and Collins, 2002), *ΔREV* is the change in sales revenue, *ΔREV* is the change in accounts receivable, and PPE is the net property, plant, and equipment. All the variables in this equation are scaled by lagged total assets. I estimate Equation (9) cross-sectionally each year within the same industry group (industry is defined by two-digit SIC) to obtain the expected (non-discretionary) accruals, and the difference between the observed value and the fitted value is the discretionary accruals predicted. Since discretionary accruals can be either income-increasing or income decreasing, I use the absolute value of discretionary accruals (*ABACC*). Finally, Cheng and Subramanyam (2008) show that financial analysts play both information role and monitoring role in the debt market and thus higher analyst coverage is associated with lower default risk. I control for *NANAL*, calculated as the natural log of one plus the number of analysts following a firm at the end of the year.

CHAPTER 4 EMPIRICAL RESULTS

4.1 Summary Statistics

Table 1 presents the coding for credit ratings and the sample frequency distribution. Following prior studies (e.g., Cheng and Subramanyam, 2008), I define *RATING* as Standard & Poor's long-term issuer credit ratings for each firm at the end of year t ranging from 1 to 20, where 1 represents AAA, 2 represents AA+, …, and 20 represents D or SD. The frequency distribution of *RATING* is largely comparable to that in prior research (e.g., Cheng and Subramanyam, 2008; Kuang and Qin, 2013).

<Insert Table 1 here>

Table 2 reports the descriptive statistics of main variables in the regression analysis. I discuss only selected key variables. First, the mean (median) *RATING* is 8.055 (8), which is equivalent to a BBB+ rating on the S&P rating scale. This statistic is consistent with that reported in prior studies (e.g., Cheng and Subramanyam, 2008; Kuang and Qin, 2013). Second, the mean (median) value of a CEO's political ideology measure REP_{AVG} is 0.386 (0.600), suggesting that a greater proportion of S&P 500 CEOs in my sample lean towards the Republican Party (REP_{AVG} >0). This evidence is consistent with Christensen et al. (2015), who report that 64.2% of their S&P 1500 executives (including CEOs, CFOs, and other top executives) lean towards the Republican Party. Third, the median total assets (*SIZE*) is \$7,101,064,632 (= $e^{8.868}$×1,000,000); the median stock price per share (*PRC*) is 39.12; the median

number of analysts following the firm (*NANAL*) is 19 (=$e^{2.944}$). These three statistics are consistent with S&P 500 firms being large in size.

<Insert Table 2 here>

Table 3 presents the Pearson correlations among measures of credit risk assessment, political ideology, and several control variables. First, the proxy of credit risk assessment is significantly negatively correlated with the proxy of CEO political ideology (-0.062). This provides univariate evidence in support of the main hypothesis that firms with Republican-leaning CEOs are associated with lower default risk than firms with Democratic-leaning CEOs. Second, the correlations between credit ratings and control variables are generally consistent with the expectations. For example, firms' default risk (*RATING*) is negatively associated with return on assets (*ROA*), interest coverage (*COVER*), change in shareholder equity (ΔEQ), firm size (*SIZE*), stock price per share (*PRC*), and analyst coverage (*NANAL*), and is positively associated with leverage ratio (*LEV*), earnings volatility (*STNI*), loss incidence (*LOSS*), stock returns volatility (*SDRET*), and absolute value of abnormal accruals (*ABACC*).[8]

<Insert Table 3 here>

4.2 Regression Results

To test the main hypothesis that firms with Republican-leaning CEOs are associated with lower perceived default risk, I follow prior literature (e.g.,

[8] The univariate correlation between *RATING* and REP_{AVE} as well as other control variables are all statistically significant at 1% level or lower.

Ashbaugh-Skaife et al., 2006) and estimate Equation (1) using ordered logit model. The reason for choosing ordered logit model is that the rating categories express ordinal risk assessments, which assumes that the 20 rating categories are equally spaced. However, there is no assumption of uniform differences between the categories. I calculate standard errors for coefficient estimates after correcting for heteroskedasticity following White (1980) and after clustering observations at the firm level to control for serial dependence across years for a given firm (Petersen, 2009).

Table 4 reports the findings. The coefficient on the first CEO political ideology measure, REP_{IND}, is significantly negative (-0.114, t = -3.14), consistent with the hypothesis that firms with Republican-leaning CEOs have lower default risk than those with Democratic-leaning CEOs. The magnitude of the estimated coefficient suggests that after controlling for other factors, credit ratings are 10.77% (= $1 - e^{-0.114}$) lower for firms with Republican-leaning CEOs than firms with Democratic-leaning CEOs. The effect of CEO political ideology on credit ratings appears economically significant. Similarly, when CEO political ideology is measured by REP_{AVG}, the coefficient is significantly negative (-0.099, t = -4.21), again suggesting that credit analysts perceive firms with Republican-leaning CEOs as those with lower default risk.

<Insert Table 4 here>

The coefficients on control variables are generally consistent with prior literature. For examples, I find that firms' default risk is negatively associated with return on assets (*ROA*), interest coverage (*COVER*), change in shareholder

equity (ΔEQ), firm size (*SIZE*), stock price per share (*PRC*), and analyst coverage (*NANAL*), and is positively associated with leverage ratio (*LEV*), earnings volatility (*STNI*), loss incidence (*LOSS*), stock returns volatility (*SDRET*), and absolute value of abnormal accruals (*ABACC*).

4.3 Control for Potential Endogeneity

One potential concern is that political contributions may be endogenously determined. The endogeneity can manifest itself in correlated omitted variables, measurement error in the test variables, and simultaneity. For example, Republican-leaning CEOs may be attracted to certain omitted firm characteristics and these omitted firm characteristics are associated with lower credit ratings. I conduct three tests to mitigate the endogeneity concern: (1) change analysis around CEO turnovers; (2) instrumental variable approach; (3) attribute-matched sample analysis.

4.3.1 Change Analysis around CEO Turnovers

First, I follow Ahmed and Duellman (2013) and Christensen et al. (2015), and exploit CEO turnover to address the correlated omitted variables concern. Prior research in CEO turnover has shown that a change in a firm's CEO often results in strategic change in firm corporate decisions (e.g., Finkelstein et al., 2009). If a CEO's risk-taking attitude in corporate policies is indeed captured by his or her political ideology, I expect that the change in political ideology due to a CEO turnover will lead to a change in credit ratings.

I follow Christensen et al. (2015) and first identify all CEO turnovers during the sample period. Then, I modify the Equation (1) into a "change" specification around CEO turnovers. I exclude the CEO turnover year (i.e., year t) from the sample, and focus on the three years prior (i.e., year t-1, t-2, and t-3) and three years after (i.e., year t+1, t+2, and t+3) the CEO turnover. To construct the change specification for CEO political ideology (*ΔPI*), I follow Christensen et al. (2015) and set the value of *ΔPI* to 1 if a Republican-leaning CEO (REP_{AVE} > 0) replaces a non-Republican-leaning CEO (REP_{IND} <= 0), 0 if the political ideologies are the same for the incoming and departing CEOs, and -1 if a non-Republican-leaning CEO replaced a Republican-leaning CEO. For variables in Equation (1) other than REP_{AVG}, I calculate the mean value for each variable in the three prior years and three post years, respectively. I adjust each three-year average variable by its industry mean over the same three-year period to control for the time and industry trends (Greene, 2011). The change specification for each variable is calculated by subtracting its de-meaned average in the three prior years from its de-meaned average in the three post years. Finally I require at least two observations in both the three prior year period and the three post year period around a CEO turnover. The CEO turnover sample contains 793 observations.

Table 5 presents the findings for the regression of Equation (1) in its change specification using the CEO turnover sample. The coefficient on the change in CEO political ideology after a CEO turnover, *ΔPI*, is significantly negative (-0.336, t = -1.70). It suggests that when a non-Republican-leaning (Republican-leaning) CEO is replaced by a Republican-leaning (non-

Republican-leaning) CEO, the firm is associated with lower (higher) perceived default risk.

<Insert Table 5 here>

4.3.2 Instrumental Variable Approach

Following Hutton et al. (2015), I address the potential endogeneity problem in CEO political ideology using an instrumental variables estimation framework. A good instrument should be a strong predictor of a CEO's political ideology but should not directly influence a firm's credit ratings. Following Hutton et al. (2015), I adopt two instrumental variables. The first instrumental variable is the proportion of the local population with a bachelor's degree as reported in the census of 2000 (*BPCT*). I choose the year 2000 census, rather than a more recent census, in order to make the instrument before the sample period (2001-2012). A Pew Research Center report states that Blacks, Asians, Hispanics, well-educated adults, and Millennials are more likely to lean towards Democratic Party.[9] Thus, the proportion of the local population with a bachelor's degree is likely to be correlated with CEO political ideology. At the same time, it is unlikely to be correlated with credit ratings. The second instrumental variable is the proportion of gun owners in the home state (*GPCT*). Gun owners are likely to align with the Republican Party but are unlikely to be correlated with credit

[9] See "A Deep Dive into Party Affiliation: Sharp Differences by Race, Gender, Generation, Education" by Pew Research Center, April 7, 2015 at http://www.people-press.org/2015/04/07/a-deep-dive-into-party-affiliation/.

ratings. I obtained this state-level estimate of the percentage of gun ownership from the 1999 National Firearms Survey.[10]

With these two instrumental variables (*BPCT* and *GPCT*), I follow the standard two-stage least squares (2SLS) estimation to address the endogeneity concern in CEO political ideology (REP_{AVG}). In the first stage, I regress the CEO political ideology measure (REP_{AVG}) on one of the instrumental variables (*BPCT* or *GPCT*) and all independent variables in Equation (1) except REP_{AVG}. In the second stage, I regress credit ratings (*RATING*) on the predicted value of REP_{AVG} from the first stage regression ($PREDREP_{AVG}$) and all independent variables in Equation (1) except REP_{AVG}. Specifically, I estimate the following two equations.

First stage regression:

$$\begin{aligned} REP_{AVG} = {} & c_0 + c_1 BPCT \text{ (or } GPCT) + c_2 ROA + c_3 LEV + c_4 COVER + c_5 SDNI + c_6 LOSS \\ & + c_7 INTAN + c_8 \Delta EQ + c_9 RET + c_{10} SDRET + c_{11} BM + c_{12} SIZE + c_{13} PRC \\ & + c_{14} ABACC + c_{15} NANAL + \text{Year indicators} + \text{Industry indicators} + \varepsilon \end{aligned} \quad (2)$$

Second stage regression:

$$\begin{aligned} RATING = {} & d_0 + d_1 PREDREP_{AVG} + d_2 ROA + d_3 LEV + d_4 COVER + d_5 SDNI + d_6 LOSS \\ & + d_7 INTAN + d_8 \Delta EQ + d_9 RET + d_{10} SDRET + d_{11} BM + d_{12} SIZE + d_{13} PRC \\ & + d_{14} ABACC + d_{15} NANAL + \text{Year indicators} + \text{Industry indicators} + \varepsilon \end{aligned} \quad (3)$$

[10] The data is available at http://www.icpsr.umich.edu/icpsrweb/NACJD/studies/4552.

Table 6, Panel A, reports the findings from estimating Equations (2) and (3) using the first instrumental variable, the Proportion of Local Population with a Bachelor's Degree (*BPCT*). First, I conduct a Durbin-Wu-Hausman test for the existence of endogeneity. The Durbin-Wu-Hausman endogeneity test shows that the Wu-Hausman F statistic is 11.25 (p-value < 0.001), which rejects the null of non-endogeneity. So, it is appropriate for us to use the instrumental variable approach to control for endogeneity. Second, I test the strength of the instrumental variable, *BPCT*. The Weak Instrument test strongly rejects the null of the weak instrument, i.e., the choice of instrumental variable following Hutton et al. (2015) is appropriate. Third, the coefficient on *BPCT* in the first stage is significantly negative (-4.271, t = -4.91), suggesting that individuals receiving higher education (with a bachelor's degree) are more likely associated with the Democratic Party than the Republican Party, consistent with Hutton et al. (2015) and the Pew Research Center report discussed earlier. Finally, the coefficient on the predicted CEO political ideology ($PREDREP_{AVG}$) in the second stage is significantly negative (-0.253, t = -2.11), suggesting that CEO political ideology is still significantly negatively associated with credit ratings after controlling for endogeneity.

<Insert Table 6 here>

Table 6, Panel B, presents the results from estimating Equations (2) and (3) using the second instrumental variable, the proportion of gun owners in the home state (*GPCT*). The coefficient on *GPCT* in the first stage regression is significantly positive (1.084, t = 4.83), consistent with Hutton et al. (2015). More

importantly, the coefficient on the predicted CEO political ideology ($PREDREP_{AVG}$) in the second stage regression is significantly negative (-0.472, t = -1.77), suggesting that CEO political ideology is still significantly negatively associated with credit ratings after controlling for endogeneity.

4.3.3 Matched Sample Analysis

Third, Republican-leaning CEOs may self-select into firms with more conservative business strategies. Consequently, Republican firms may differ systematically from Democratic firms. The observed lower credit ratings for Republican firms than Democratic firms could be due to systematic differences in firm characteristics between these two groups of firms. I use an attribute-matched sample analysis to mitigate this concern. According to Roberts and Whited (2013), matching "can mitigate asymptotic biases arising from endogeneity or self-selection." In this study, I choose to use attributes matched analysis instead of propensity score matching (PSM) approach to mitigate the endogeneity problem. The application of PSM approach has been heavily criticized recently. According to Shipman et al. (2016), subjective design choices underlying PSM affect the composition of the matched sample and can potentially alter inferences from the analysis. Since firm size is one of the most important determinants of credit ratings, I match each observation in the Democratic firms with an observation from the Republican firms in the same year and same industry whose total assets are closest to the Democratic observation and are within 95% to 105% of the Democratic observation's total assets. I have 1,252 observations in the Democratic subsample and find matches

for 1,050 observations. I thus obtain a matched sample of 2,100 observations, half of which are Democratic firms and the other half are Republican firms whose total assets are within 95% to 105% of their Democratic counterparts.[11]

Table 7 presents the findings for the regression of Equation (1) using the size-matched sample. The coefficient on REP_{AVG} is significantly negative (-0.220, t = -3.99), suggesting that the differences in firm characteristics such as firm size between the Republican and Democratic firms are unlikely to explain the negative relation between CEO political ideology and credit ratings.

<Insert Table 7 here>

[11] Before matching, I have 1,252 (3,959) observations in the Democratic (Republican) subsample. The mean and median firm size (*SIZE*) of the Republican subsample are both significantly larger than the mean and median firm size of the Democratic firms. After matching, I have 1,050 (1,050) observations in the Democratic (Republican) subsample. The differences in mean and median *SIZE* between these two subsamples are no longer significant. Results are untabulated.

CHAPTER 5 ADDITIONAL ANALYSES

5.1 Cross-Sectional Tests

In the last section, I find a positive association between CEO political ideology and credit ratings because CEOs can imprint their personal preference/attributes on corporate decisions. However, the extent to which CEOs imprint their political ideologies on firms may be affected by certain factors. Specifically, CEOs tend to imprint their political ideologies on firms if they are likely to have a greater impact on firm corporate outcomes. Bonsall et al. (2016) hypothesize and find that the relation between managerial ability and credit ratings is stronger for firms operating in the highly uncertain information environment. Therefore, I first follow Bonsall et al. (2016) and conduct cross-sectional analyses based on three proxies for the uncertainty of information environment: past variability (*PVAR*), capital intensity (*CAPINT*), and firm growth (*GROWTH*). Specifically, I define *PVAR* as the standard deviation of daily stock returns for firm i during fiscal year t, and classify firms as having high (low) past variability and thus high (low) information environment uncertainty if they are in the top (bottom) tercile of *PVAR*. Similarly, I calculate *CAPINT* as the gross property, plant, and equipment scaled by total assets at the end of the year t, and classify firms as having high (low) capital intensity and thus low (high) information uncertainty if they are in the top (bottom) tercile of *CAPINT*. Finally, I classify firms as high (low) growth firms and thus having high (low) information uncertainty if they are (not) in the healthcare, computer, medical equipment, and pharmaceutical industries.

I re-estimate Equations (1) for each subsample (i.e., high/low past variability, high/low capital intensity, and high/low growth). Table 8, Panel A, reports the results for the high versus low past variability subsample. As shown, the coefficient on REP_{AVG} is significantly negative in both high and low past variability subsamples, and is more negative in the high subsample, where the firm operates in the highly uncertain information environment, than low subsample (i.e., -0.539 for high *PVAR* subsample vs. -0.289 for low *PVAR* subsample). The null hypothesis that the coefficients on REP_{AVG} are equal between the two subsamples are rejected (χ^2 = 3.26, p-value = 0.071). Panels B and C show that the coefficient on REP_{AVG} is significantly more negative in the low *CAPINT* or high *GROWTH* subsample compared with that in high *CAPINT* or low *GROWTH* subsample. The level of information uncertainty is high in the low *CAPINT* or high *GROWTH*. Overall, consistent with Bonsall et al. (2016), the evidence in Table 9 suggests that the negative association between CEO political ideology (REP_{AVG}) and credit ratings (*RATING*) is more pronounced in a subsample where information uncertainty is high (i.e., high past variability firm-years, low capital intensity firm-years, or high growth industries).

<Insert Table 8 here>

Moreover, Christensen et al. (2015) find that Republican firms engage in less tax avoidance than Democratic firms. They further investigate whether the above association varies cross-sectionally between entrenched and less entrenched managers. They find that their main results (Republican firms engage in less tax avoidance than Democratic firms) are driven by the subsample where

managers are entrenched. The finding suggests that a manager's personal political preference affects the firm's corporate policies and behavior less strongly when the corporate governance of the firm is stronger. In firms with weak corporate governance, the influence of the manager's personal political preferences on corporate policies and behavior is more pronounced.

In the spirit of Christensen et al. (2015), I use three proxies of monitoring and corporate governance. First, I follow Callen and Fang (2013) and apply institutional ownership stability (*IOSTB*) proxy, measured as the negative value of the average standard deviation of institutional shareholding proportions across all investors in a firm over the most recent five years (i.e., 20 quarters). Callen and Fang (2013) document that institutional investor stability is associated with lower future stock price crash risk, suggesting that institutional investors play a monitoring role in the capital market. My second proxy for corporate governance is the percentage of a firm's outstanding shares held by dedicated institutional investors (*DEDIO*). Bushee (1998) document that dedicated institutional investors on average play an effective monitoring role in curbing managerial myopia.[12] My third measure is governance index (*GINDEX*) developed by Gompers et al. (2003) as the proxy for the strength of corporate governance. The *GINDEX* has been widely used in the prior studies (e.g., Cronqvist et al., 2012; Callen and Fang, 2015) as a proxy for the strength of corporate governance. I classify observations into strong (weak) corporate governance subsample if they

[12] Bushee (1998) classifies institutional investors into three groups—transient, quasi-indexer, and dedicated—based on portfolio turnover, diversification, and momentum trading. I thank Brian Bushee for providing the institutional investor classification data at http://acct.wharton.upenn.edu/faculty/bushee/IIclass.html.

are in the top (bottom) tercile of *IOSTB*, top (bottom) tercile of *DEDIO*, or bottom (top) tercile of *GINDEX*.[13]

Panel A, B, and C of Table 9 reports the results. For example, Panel A reports the results for the high versus low institutional ownership stability subsample. As shown, the coefficient on REP_{AVG} is significantly negative in both high and low institutional ownership stability subsamples, and is more negative in the low stability subsample, where the corporate governance of the firm is weaker, than low subsample (i.e., -0.253 for high *IOSTB* subsample vs. -0.463 for low *IOSTB* subsample). The null hypothesis that the coefficients on REP_{AVG} are equal between the two subsamples are rejected (χ^2 = 4.13, p-value = 0.042). Panels B and C show that the coefficient on REP_{AVG} is significantly more negative in the low *DEDIO* or high *GINDEX* subsample compared with that in high *DEDIO* or low *GINDEX* subsample. In sum, I find that the association between CEO political ideology and credit ratings is more pronounced for the subsample of firms with weaker corporate governance (i.e., lower institutional ownership stability, lower dedicated institutional ownership, a higher value of *GINDEX*), consistent with my predictions.

<Insert Table 9 here>

5.2 Tests of Economic Bonding

In investigating the relation between managerial attributes and credit rating, economic bonding could be a potential omitted correlated variable. In this paper, it is likely that Republican-leaning CEOs have a stronger positive

[13] Larger values *GINDEX* indicate weaker governance.

influence on the decision-making process of the issuer-pay credit rating agencies, resulting in more favorable credit ratings. To mitigate the concern of the economic bonding between CEOs and credit rating agencies, I follow the research design from Bonsall et al. (2016) and conduct two set of tests.

First, given that economic bonding between CEOs and credit rating agencies is likely to become stronger as the CEOs' tenure increases, I investigate the relation between CEO political ideology and credit ratings in two subsamples: firm-years with long-tenure CEOs and firm-years with short-tenure CEOs. If economic bonding is indeed an omitted correlated variable, then I expect the relation between CEO political ideology and credit ratings is stronger if the CEOs are long-tenure. Consistent with Bonsall et al. (2016), I define long-tenure CEOs as those with three or more years of experience, and short-tenure CEOs as those with one or two years of experience. Panel A of Table 10 provides the results. The coefficients on REP_{AVE} are significantly negative in both long-tenure and short-tenure CEO subsamples, while the Wald test for the coefficient difference shows that there is no statistically significant difference in magnitude of the two coefficients on REP_{AVE} across two subsamples ($\chi^2 = 0.71$, p-value = 0.400). This evidence suggests that economic bonding is unlikely to affect my main findings.

<Insert Table 10 here>

Second, it is also likely that economic bonding between CEOs and credit rating agencies is stronger when the firms' ratings are around the investment grade cutoff. Specifically, when the firms' credit ratings fall from investment

grade to speculative grade, there are more restrictions on various investor classes from holding speculative grade securities, and the demand for such securities decreases. Therefore, I investigate the relation between CEO political ideology and credit ratings in two subsamples: firm-years with ratings around the investment grade cutoff (i.e., ratings just above the cutoff: BBB, BBB-, and those just below the cutoff: BB+, BB) and firm-years with ratings in other categories. If economic bonding drives my main findings, then I expect the relation between CEO political ideology and credit ratings is stronger for firm-years with ratings around the investment grade cutoff. Panel B of Table 10 shows that coefficients on REP_{AVE} are significantly negative in both subsamples. The Wald test for the coefficient difference shows that there is no statistically significant difference in magnitude of the two coefficients on REP_{AVE} across two subsamples (χ^2 = 0.38, p-value = 0.540), further supporting that economic bonding is unlikely to be a major concern as a omitted correlated variable.

5.3 Channels through which Political Ideology Affect Credit Ratings

In this section, I follow the approach outlined in Baron and Kenny (1986) and He and Tian (2013) to examine the potential channels through which CEO political ideology affects credit ratings. I first demonstrate that CEO political ideology affects the channel variables. Next, I show that CEO political ideology has a residual effect on credit ratings after controlling for the channel variables. Specifically, I regress credit ratings on CEO political ideology, the channel variables, and other original independent variables in Equation (1). If the channel variables mediate the relation between credit ratings and CEO political ideology,

then the significance of CEO political ideology will be reduced compared to the original regression without the channel variables. More importantly, the channel variables should be significantly related to credit ratings.

The two potential channels I propose to investigate are future earnings volatility and future stock returns volatility. Hutton et al. (2014) show that Republican firms have lower levels of corporate debt, lower capital and research and development expenses, less risky investments, but higher profitability. Christensen et al. (2015) find that Republican firms are less likely to engage in tax avoidance. Cheng et al. (2017) find that financial statements of firms with Republican-leaning CEOs exhibit more accounting conservatism than financial statements of firms with Democratic-leaning CEOs, suggesting that financial reporting quality of Republican firms is higher. These findings suggest that firms with Republican-leaning CEOs are likely less risky than firms with Democratic-leaning CEOs. I expect that firms with Republican-leaning managers are associated with lower future earnings volatility and lower future return volatility. Prior research has provided ample evidence implying that that lower future earnings volatility and lower return volatility lead to lower default risk. Therefore, I propose that CEO political ideology affects credit ratings through its impact on firms' future earnings and returns volatility.

To examine whether CEO political ideology affects the proposed channel variables (i.e., future earnings volatility and future returns volatility), I first regress each channel variable on CEO political ideology as well as some control variables. Following Bonsall et al. (2016), I calculate future earnings volatility

(*SDNI_FUT*) as the standard deviation of ROA for each firm over the four-year period from year t+1 to year t+4. Similarly, I define future return volatility (*SDRET_FUT*) as the standard deviation of monthly stock returns for each firm over the four-year period from year t+1 to year t+4. I present the results in Table 11, Panel A. As shown in column (1), the coefficient on REP_{AVG} is negative and significant at 0.01 level (-0.003, t = -2.58) when *SDNI_FUT* is the dependent variable, suggesting that firms with Republican-leaning CEOs have lower future earnings volatility. Column (2) shows that the coefficient on REP_{AVG} is significantly negative (-0.001, t = -1.68) when *SDRET_FUT* is the dependent variable, suggesting that firms with Republican-leaning CEOs have lower future returns volatility.

<Insert Table 11 here>

Next, I conduct a mediation analysis to examine whether CEO political ideology has a residual effect on credit ratings after controlling for the two channel variables (i.e., *SDNI_FUT* and *SDRET_FUT*). To do so, I modify Equation (1) by including the two channel variables as additional explanatory variables. I estimate this augmented Equation (1) and report the findings in Panel B of Table 11. Column (1) shows that the coefficient on REP_{AVG} remains significantly negative (-0.309, t = -2.72). This coefficient becomes smaller when compared to their counterparts (-0.323, t = -2.84 as reported in column 2) without controlling for the two channel variables and with the same observations. In addition, the coefficients on *SDNI_FUT* (5.001, t = -3.46) and on

SDRET_FUT (6.822, t = 3.94) are both significantly positive, suggesting that the two channel variables are linked to credit ratings.

In sum, I provide evidence that CEO political ideology affects credit ratings through future earnings volatility (*SDNI_FUT*) and future returns volatility (*SDRET_FUT*), because I show that *SDNI_FUT* and *SDRET_FUT* are both linked to credit ratings (Panel B, Table 11) and CEO political ideology affects *SDNI_FUT* and *SDNI_FUT* (Panel A, Table 11). More importantly, the coefficient on REP_{AVG} remains significantly negative in Panel B of Table 11, suggesting that CEO political ideology has a residual effect on credit ratings incremental to the two channel variables.

CHAPTER 6 ROBUSTNESS TESTS

6.1 Controlling for CEO Equity Incentives and Managerial Ability

Recent studies have shown that managerial attributes play an important role in affecting credit risk assessment. For example, Kuang and Qin (2013) show that the managerial compensation incentives for risk taking affect credit ratings, suggesting that credit rating agencies incorporate CEO equity incentives into their risk assessment model because CEO equity incentives encourage executive risk-taking and increase the probability of default. Bonsall et al. (2016) find that managerial ability in transforming corporate resources to revenues is associated with more favorable credit ratings. It is possible that CEO political ideology is correlated with omitted managerial attributes and the findings in Table 4 are due to not including these omitted managerial attributes. To mitigate such a concern, I augment Equation (1) by including CEO equity incentives as proxied by the sensitivity of managerial wealth to firm performance (*DELTA*) or the sensitivity of managerial wealth to stock return volatility (*VEGA*), and managerial ability (*MA*) as additional explanatory variables.[14]

Table 12, Panel A shows that the coefficient on CEO political ideology remains statistically negative (-0.271, t = -2.64 when using *DELTA* as the proxy for equity incentives; -0.296, t = -2.86 when *VEGA* is used for equity incentives). The main results hold after controlling for additional managerial attributes.

[14] I thank Sarah McVay for generously providing the CEO ability measure derived from DEA (data envelope analysis) as described in detail in Demerjian et al. (2012). The data is available at: http://faculty.washington.edu/smcvay/abilitydata.html.

Further, I find that the coefficients on *DELTA, VEGA, and MA* are all statistically significant, and the signs are consistent with the findings in prior studies.

<Insert Table 12 here>

6.2 Investment-grade versus Speculative-grade

Given that it is difficult to quantify the effect of CEO political ideology on credit ratings with multiple categories (as proxied by *RATING*), Ashbaugh-Skaife et al. (2006) partitions credit ratings into investment-grade versus speculative-grade. Compared with firms receiving an investment-grade rating, those receiving speculative-grade rating incur a higher cost because bond portfolio managers are in general restricted from owning speculative-grade bonds (e.g., Grinblatt and Titman, 2002). Therefore, I expect that firms with Republican CEOs are associated with lower likelihood of receiving speculative-grade ratings.

I re-estimate Equation (1) using logistic regression after changing the dependent variable from *RATING* to *SPECULATIVE_GRADE*, which is an indicator variable that equals one if the firm's credit rating is below BBB, and zero otherwise. As presented in Panel B of Table 12, the coefficient on REP_{AVG} is significantly negative at 0.1% level (-0.292, t = -1.80), consistent with my prediction. The magnitude of the coefficient shows that a one-standard-deviation (0.639) increase in REP_{AVG} leads to a decrease in the probability of 18.7% (-0.292*0.639) in receiving the speculative-grade. This is comparable to the sample mean of *SPECULATIVE_GRADE* (0.184), indicating that the effect of CEO political ideology on credit ratings is also economically significant.

6.3 Alternative Measures of Political Ideology

In this section, I consider three alternative measures of political ideology for robustness. I construct an indicator variable, REP_{IND}, as the first alternative measure of a CEO's political ideology, following Christensen et al., (2015). REP_{IND} is equal to one if $REP_{AVG} > 0$, and zero otherwise. Thus, REP_{IND} equal to one indicates that the CEO is Republican-leaning and REP_{IND} equal to zero indicates that the CEO is Democratic-leaning. Second, I construct another CEO-specific measure REP_{PCT} defined as the net amount of cumulative campaign contributions made by a CEO to the Republican Party across election cycles, divided by total amount of cumulative campaign contributions to both parties across cycles.

Finally, note that all the CEO political ideology measures discussed above (i.e., $REP_{AVG,}$ REP_{IND}, and REP_{PCT}) are based on the cumulative amount of CEO campaign contributions across election cycles, making the proxies at the CEO-level. I assume that political identification is relatively stable and coherent over the entire adult life. One concern is that the measures may suffer from a look-ahead bias problem. To mitigate this concern, I further use a CEO-election-cycle-specific measure (*REP*) as a third alternative political ideology measure (Hutton et al., 2014; Di Giuli and Kostovetsky, 2014). As defined earlier, the value of *REP* varies from -1 to +1 with a value of +1 (-1) indicating that a CEO's all personal political contributions are made to the Republican (Democratic) Party in an election-cycle.

I estimate Equation (1) using the above three CEO-election-cycle specific measures of political ideology. As some CEOs do not make any personal contributions in certain election-cycles, I exclude these observations making the sample size smaller. Table 12, Panel C, presents the regression results. Consistent with the main results, for all three measures of CEO political ideology, the coefficient on CEO political ideology is significantly negative.

6.4 Subsample Excluding Observations with CEO Campaign Contributions to both Parties

The current sample of 5,211 observations for the main analyses includes CEOs who contribute to both Republican and Democratic Parties over time. To obtain a clean sample that excludes observations with CEO contributing to both parties, I identify a subsample of 1,566 observations where CEOs contribute 100% either to the Republican Party or to the Democratic Party (i.e., REP_{AVG} =1 or REP_{AVG} = -1). I re-estimate Equation (1) using this subsample and report the findings in Panel D of Table 12. As shown, the coefficient on CEO political ideology is significantly negative (-0.259, t = -1.81).

6.5 Controlling for State Fixed Effects

The political beliefs of the general public in the US are affected by the geographic areas. According to the historical voting behaviors of local residents, different states are classified as either blue state, red state, or swing state. As a result, the geographic factors would influence CEOs' political contributions. To rule out the possibility that the results are driven geographic factors, I estimate

Equation (1) after controlling for state fixed effects. Table 12, Panel E presents the results, which shows that the coefficient on the CEO political ideology measure remains significantly negative (-0.257, t = -2.43) after considering state fixed effects.

6.6 OLS Regression Controlling for Firm Fixed Effects

The results reported so far are estimated using ordered logit models, because I assume that the 20 rating categories are not equally spaced (Ashbaugh-Skaife et al., 2006). In this section, I first relax the assumption and use OLS model for estimation. As shown in Column (1) of Table 10, Panel F, the coefficient on the CEO political ideology measure is -0.294 (t = -3.26), which is similar as that reported in Table 4. To further mitigate the concern that the results are driven by certain omitted time-invariant firm characteristics, I control for firm-fixed effects in the OLS model. Column (2) of Table 12, Panel F shows that the coefficient on REP_{AVE} remains significantly negative at 0.1% level (-0.099, t = -2.22).

CHAPTER 7 CONCLUSIONS

As one of the vital information intermediaries in the debt market, credit rating agencies have been widely recognized by market participants as the primary information source in evaluating the firms' default risk. As released in their research methodologies for determining corporate credit ratings, credit rating agencies identify managerial conservatism as one important factor that affects their risk assessments. In spite of a large volume of studies examining the link between credit ratings and various determinants of default risk, the extant literature has not examined the relation between credit ratings and managerial conservatism. In this study, I fill this gap by investigating whether and how credit rating agencies take into account CEO political ideology in their rating decisions.

I find that Republican firms (i.e., firms run by Republican-leaning CEOs) enjoy more favorable credit ratings (perceived by credit analysts as with lower default risk) than Democratic firms (i.e., firms run by Democratic-leaning CEOs). This finding holds after controlling for potential endogeneity and self-selection concerns by conducting three sets of tests: (1) using CEO turnover as a firm-specific shock; (2) using the instrumental variable estimation framework; and (3) using the attribute-matched sample analysis.

In the additional analyses, I first find that the association between CEO political ideology and credit ratings is more pronounced for firms with high uncertainty of information environment and for firms with weak corporate governance. I further mitigate the concern that economic bonding between CEOs

and credit rating agencies may drive the results. Moreover, I identify future earnings volatility and future return volatility as two possible channels through which CEO political ideology affects credit ratings, and show that CEO political ideology has a residual effect on credit ratings after controlling for these two channel variables.

Finally, the main result is robust to a battery of sensitivity analyses, including controlling for additional CEO attributes; using the likelihood of receiving speculative-grade ratings as the dependent variable; using alternative measures of CEO political ideology; using subsample that exclude observations with CEO making contributions to both parties; controlling for state fixed effects; and controlling for firm fixed effects.

APPENDIX A VARIABLE DEFINITIONS

Variable	Definition
Credit Rating Variables	
RATING	Standard & Poor's long-term issuer credit rating for firm i at the end of year t ranging from 1 to 20, where 1 represents AAA and 20 stands for default.
ΔRATING	Change in *RATING* surrounding a CEO turnover = the de-meaned average *RATING* in the three years post turnover minus the de-meaned average *RATING* in the three years prior to turnover, where de-meaned average *RATING* is equal to the three-year average *RATING* minus its industry mean over the same three-year period.
Political Ideology Variables	
REP_{AVG}	The mean of all the cycle-specific *REP* (i.e. for each election cycle that a CEO makes contributions, the cycle-specific *REP* refers to net amount of contributions to the Republican Party in that cycle, divided by total amount of contributions to both parties in that cycle).
REP_{IND}	An indicator variable for a net contributor to the Republican Party that equals 1 if $REP_{AVG} > 0$, and 0 otherwise.
REP_{PCT}	Net amount of cumulative campaign contributions made by a CEO to the Republican Party across election cycles, divided by total amount of cumulative campaign contributions to both parties across cycles.
REP	A CEO's political ideology measure in a 2-year election-cycle (i.e., 2001-2002, 2003-2004, …, 2011-2012), calculated as the CEO's dollar value of personal contributions to the Republican Party (candidates and party committees) minus the dollar value of personal contributions to the Democratic Party (candidates and party committees) divided by the dollar value of personal contributions to both parties. *REP* ranges from +1 (all contributions to the Republican Party) to –1 (all contributions to the Democratic Party), and is a CEO-election-cycle-specific measure.
ΔID	An indicator variable for the change in CEO political ideology after a CEO turnover that equals 1 if a Republican-leaning CEO ($REP_{AVG} > 0$) replaces a Democratic-leaning CEO ($REP_{AVG} <= 0$), 0 if the political ideology is unchanged after a CEO turnover, and –1 if a Democratic-leaning CEO

replaces a Republican-leaning CEO.

Instrumental Variables, Partition Variables, and Channel Variables

BPCT	The proportion of local population with a bachelor's degree as reported in the census of 2000.
GPCT	The proportion of gun owners in the home state from the 1999 National Firearms Survey.
PVAR	Past variability, measured as the standard deviation of daily returns during fiscal year t.
CAPINT	Gross property, plant, and equipment scaled by total assets at the end of the year.
GROWTH	An indicator variable that equals one if the firm is in the healthcare, medical equipment, computer and pharmaceutical industries, and zero otherwise.
IOSTB	Institutional ownership stability, measured as the negative value of the average standard deviation of institutional shareholding proportions across all investors in a firm over the most recent 5 years.
DEDIO	The percentage of a firm's outstanding shares held by dedicated institutional investors, based on the classification of institutional investors form Bushee (1998).
GINDEX	External governance index introduced by Gompers, Ishii, and Metrick (2003) with larger values of *GINDEX* indicating weaker governance.
TENURE	The number of years of CEO's service, with long-tenure CEO defined as those with three or more years of experience and short-tenure CEO defined as those with one or two years of experience.
IG_CUTOFF	Indicator for firm-years with ratings around the investment grade cutoff (i.e., credit ratings just above the cutoff: BBB, BBB-, and those just below the cutoff: BB+, BB)
SDNI_FUT	Future earnings volatility, calculated as the standard deviation of ROA for each firm over the four-year period from year t+1 to year t+4
SDRET_FUT	Future returns volatility, calculated as the standard deviation of monthly returns for each firm over the four-year period from year t+1 to year t+4

Control Variables

ROA	Return on assets, measured as income before extraordinary items divided by total assets at the end of the year

LEV	Ratio of long-term debt plus short-term debt to total assets at the end of the year
COVER	Interest coverage, measured as the ratio of operating income before depreciation to interest expense
SDNI	Standard deviation of income before special items scaled by total assets at the end of the year over the prior five years
LOSS	An indicator variable that equals one if net income before special items is negative, and zero otherwise
INTAN	R&D expense plus advertising expense scaled by total assets at the end of the year
ΔEQ	An indicator variable that equals 1 if the firm has raised equity capital during the current year, and 0 otherwise
RET	Buy-and-hold raw return over the past 36 months
SDRET	Standard deviation of the monthly returns over the past 36 months
BM	Book-to-market ratio at the end of the year
SIZE	Natural log of the firm's total market value at the end of the year
PRC	Mean daily closing price per share over the fiscal year
ABACC	Absolute value of abnormal accruals, estimated from the modified Jones (1991) model
NANAL	Natural log of the number of analysts issuing an annual forecast for firm in the 11^{th} month of its fiscal year
LOG_DELTA	Natural logarithm of one plus equity delta for CEOs, where equity delta is calculated as the change in the dollar value of the CEO's stock and option holdings for 0.01 change in the stock price
LOG_VEGA	Natural logarithm of one plus equity vega for CEOs, where equity vega is calculated as the change in the value of CEO's equity holdings for a 0.01 change in the standard deviation of stock returns.
MA	Managerial ability score derived from DEA (data envelop analysis) by Demerjian et al. (2012), which assigns a higher score to managers that can produce more revenues given a certain set of inputs, after controlling for firm effects such as firm size, market share, and complexity.

APPENDIX B FEDERAL CAMPAIGN CONTRIBUTION LIMITS

Election Cycle	Recipients							
	Candidate committee	Candidate committees - aggregated limit	National party committee	State, district or local party committee	other PAC	State, district or local party committees and other PACs - aggregated limit	All party committees and other PACs - aggregated limit	Total aggregated limit
	(per election)	(per cycle)	(per year)	(per year)	(per year)	(per cycle)	(per cycle)	(per cycle)
Individual may give								
Pre-BCRA								
1974-2002	$1,000	No Limit	$20,000	$5,000	$5,000	No Limit	No Limit	$50,000*
Post-BCRA								
2003-2004	$2,000	$37,500	$25,000	$10,000	$5,000	$37,500	$57,500	$95,000
2005-2006	$2,100	$40,000	$26,700	$10,000	$5,000	$40,000	$61,400	$101,400
2007-2008	$2,300	$42,700	$28,500	$10,000	$5,000	$42,700	$65,500	$108,200
2009-2010	$2,400	$45,600	$30,400	$10,000	$5,000	$45,600	$69,900	$115,500
2011-2012	$2,500	$46,200	$30,800	$10,000	$5,000	$46,200	$70,800	$117,000
Multicandidate PAC may give								
Pre-BCRA								
1974-2002	$5,000	No Limit	$15,000	$5,000	$5,000	No Limit	No Limit	No Limit
Post-BCRA								
2003-2012	$5,000	No Limit	$15,000	$5,000	$5,000	No Limit	No Limit	No Limit

*subject to $25,000 per calendar year

In 1971, the Congress passed the Federal Election Campaign Act (FECA) to strengthen the disclosure on both campaign contributions and campaign expenditures. The FECA was amended in 1974, leading to two major updates. The first is the creation of the Federal Election Commissions (FEC), a special authority to enforce the federal monitoring system. The second is the restriction on the maximum amounts of individual and PAC contributions. This attempt is to prevent campaign finance from being over-influenced by wealthy individuals, and the FEC is then responsible to set and release these contribution limits. In 2002, the Congress passed the Bipartisan Campaign Reform Act (BCRA) to eliminate unregulated contributions (i.e. known as "soft money") to national political party committees. According to the BCRA, the campaign contribution limits were largely increased in 2003, and subject to an increase for inflation in each of the following election cycle.

Table 1 Coding Credit Ratings and Sample Frequency

S&P Debt Rating	Compustat Item #280 Code (s)	Credit Rating Score (*RATING*)	Sample Frequency	Sample Percentage
AAA	2	1	143	2.74%
AA+	4	2	24	0.46%
AA	5	3	171	3.28%
AA−	6	4	210	4.03%
A+	7	5	467	8.96%
A	8	6	686	13.16%
A−	9	7	515	9.88%
BBB+	10	8	750	14.39%
BBB	11	9	636	12.20%
BBB−	12	10	650	12.47%
BB+	13	11	280	5.37%
BB	14	12	186	3.57%
BB−	15	13	298	5.72%
B+	16	14	84	1.61%
B	17	15	50	0.96%
B−	18	16	29	0.56%
CCC+	19	17	20	0.38%
CCC or CC	20, 23	18	4	0.08%
C	21, 24	19	0	0.00%
D or SD	27, 29, 90	20	8	0.15%
Total			5,211	100.00%

The sample period is from 1992 through 2012.

Table 2 Descriptive Statistics

Variable	Mean	Std Dev	P5	Q1	Median	Q3	P95
RATING	8.055	3.087	3.000	6.000	8.000	10.000	13.000
REP_{AVG}	0.386	0.639	-1.000	0.000	0.600	0.985	1.000
ROA	0.055	0.069	-0.043	0.027	0.057	0.091	0.149
LEV	0.265	0.140	0.059	0.167	0.252	0.346	0.525
COVER	19.337	60.610	2.249	5.371	9.538	17.199	56.622
STNI	0.036	0.041	0.005	0.013	0.023	0.041	0.107
LOSS	0.114	0.317	0.000	0.000	0.000	0.000	1.000
INTAN	0.042	0.050	0.000	0.004	0.025	0.061	0.148
ΔEQ	0.828	0.377	0.000	1.000	1.000	1.000	1.000
RET	0.535	1.057	-0.523	-0.038	0.322	0.801	2.272
SDRET	0.097	0.046	0.047	0.065	0.087	0.115	0.185
BM	0.405	0.526	0.066	0.223	0.359	0.531	0.955
SIZE	8.917	1.346	6.793	8.025	8.868	9.761	11.286
PRC	43.156	28.335	9.625	24.875	39.120	55.830	87.890
ABACC	0.062	0.076	0.003	0.017	0.038	0.078	0.196
NANAL	2.687	0.951	0.000	2.485	2.944	3.258	3.664

The sample period is from 1992 through 2012. All variables are defined in Appendix A.

Table 3 Correlations

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	*RATING*	1															
2	REP_{AVG}	**-0.062**	1														
3	*ROA*	**-0.420**	0.004	1													
4	*LEV*	**0.280**	0.012	**-0.282**	1												
5	*COVER*	**-0.113**	**-0.034**	**0.201**	**-0.275**	1											
6	*STNI*	**0.352**	**-0.037**	**-0.129**	-0.011	0.017	1										
7	*LOSS*	**0.319**	0.003	**-0.646**	**0.159**	**-0.084**	**0.196**	1									
8	*INTAN*	**-0.168**	**-0.109**	**0.152**	**-0.182**	**0.143**	**0.148**	**0.028**	1								
9	ΔEQ	**0.035**	**-0.046**	**0.060**	**-0.054**	**0.041**	**0.033**	**-0.056**	**0.029**	1							
10	*RET*	**0.023**	-0.005	**0.287**	**-0.140**	**0.095**	**0.028**	**-0.191**	**0.054**	**0.076**	1						
11	*SDRET*	**0.558**	**-0.043**	**-0.328**	**0.067**	-0.011	**0.416**	**0.337**	**0.028**	**0.028**	0.002	1					
12	*BM*	**0.105**	**0.022**	**-0.139**	**-0.070**	**-0.054**	**-0.034**	**0.073**	**-0.149**	-0.003	**-0.161**	**0.079**	1				
13	*SIZE*	**-0.572**	**-0.071**	**0.350**	**-0.214**	**0.175**	**-0.096**	**-0.225**	**0.171**	**0.078**	**0.159**	**-0.289**	**-0.183**	1			
14	*PRC*	**-0.331**	**0.048**	**0.335**	**-0.158**	**0.094**	**-0.148**	**-0.245**	**0.111**	**0.047**	**0.348**	**-0.285**	**-0.156**	**0.405**	1		
15	*ABACC*	**0.097**	0.005	**-0.113**	0.001	0.020	**0.14**	**0.124**	**0.067**	0.003	**0.045**	**0.166**	-0.018	-0.005	0.005	1	
16	*NANAL*	**-0.302**	**-0.022**	**0.161**	**-0.224**	**0.111**	**-0.062**	**-0.100**	**0.155**	**0.060**	**0.047**	**-0.126**	**0.067**	**0.393**	**0.126**	**-0.049**	1

The sample period is from 1992 through 2012. Boldface text indicates significance at the 1% level or lower (two-sided). All variables are defined in Appendix A.

Table 4 Regression of Credit Ratings on CEO Political Ideology: Baseline Results

Dependent Variable:	*PREDICTED SIGN*	*RATING*
REP_{AVG}	-	**-0.306*** **
		(-3.05)
ROA	-	-6.773***
		(-6.40)
LEV	+	4.098***
		(7.28)
COVER	-	0.000
		(1.07)
SDNI	+	9.665***
		(7.11)
LOSS	+	0.021
		(0.14)
INTAN	?	-1.556
		(-1.07)
ΔEQ	-	0.168
		(1.34)
RET	?	0.598***
		(12.94)
SDRET	+	25.469***
		(13.22)
BM	?	0.070
		(0.52)
SIZE	-	-1.186***
		(-15.26)
PRC	-	-0.003
		(-1.34)
ABACC	+	1.067**
		(2.32)
NANAL	-	-0.047
		(-0.68)
N		5,211
Pseudo R^2		0.244

The sample period is from 1992 through 2012. Industry and year fixed effects are included in the regression, and the z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 5 Regression of Change in Credit Ratings on Change in CEO Political Ideology due to CEO Turnovers

Dependent variable:	Δ*RATING*
Δ*ID*	**-0.336***
	(-1.70)
Δ*ROA*	-5.900***
	(-3.32)
Δ*LEV*	-0.784
	(-0.67)
Δ*COVER*	-0.001*
	(-1.70)
Δ*SDNI*	12.139***
	(2.93)
Δ*LOSS*	-0.044
	(-0.13)
Δ*INTAN*	-8.799**
	(-2.11)
ΔΔ*EQ*	0.265
	(1.09)
Δ*RET*	0.406***
	(3.89)
Δ*SDRET*	11.492***
	(3.34)
Δ*BM*	0.251
	(0.39)
Δ*SIZE*	-0.199
	(-1.34)
Δ*PRC*	-0.018***
	(-2.67)
Δ*ABACC*	1.634
	(1.47)
Δ*NANAL*	-0.734***
	(-3.23)
N	793
Pseudo R^2	0.390

The sample period is from 1992 through 2012. Δ*ID* equals 1 if Republican replaced a Democrat as CEO, 0 if the political orientation was unchanged, and -1 if a Democrat replaced a Republican as CEO. Each of all other variables is constructed as an average over a three-year period. Each three-year average is then adjusted by subtracting the industry average value over those three years to control for industry and time trends. The Δ prefix indicates the change in the variable from the three full fiscal years after CEO turnover (years t+1, t+2, t+3) compared years before CEO turnover (years t-1, t-2, t-3). The z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 6 Instrumental Variable Regression Estimates

Panel A: The Proportion of Local Population with a Bachelor's Degree (*BPCT*) as an Instrumental Variable

	First Stage	*Second Stage*
Dependent Variable:	REP_{AVG}	*RATING*
BPCT	-4.271***	
	(-4.91)	
$PREDREP_{AVG}$		-0.253**
		(-2.11)
ROA	0.321	-5.489***
	(1.06)	(-5.72)
LEV	0.083	3.574***
	(0.48)	(6.93)
COVER	-0.000	0.000
	(-0.54)	(0.26)
SDNI	-0.055	8.045***
	(-0.11)	(7.01)
LOSS	0.055	0.058
	(1.23)	(0.41)
INTAN	-0.780	-0.946
	(-1.46)	(-0.69)
ΔEQ	-0.019	0.179
	(-0.38)	(1.50)
RET	-0.017	0.543***
	(-1.10)	(13.98)
SDRET	-1.070**	23.732***
	(-2.05)	(13.09)
BM	0.006	0.126
	(0.26)	(1.36)
SIZE	-0.031	-1.056***
	(-1.36)	(-16.69)
PRC	0.002***	-0.004*
	(2.59)	(-1.92)
ABACC	0.077	-1.171***
	(0.47)	(-2.58)
NANAL	0.007	-0.096
	(0.28)	(-1.45)
N	5,086	5,086
Pseudo R^2	0.104	0.701

Panel B: The Proportion of Gun Owners in the Home State (*GPCT*) as an Instrumental Variable

	First Stage	*Second Stage*
Dependent Variable:	REP_{AVG}	*RATING*
GPCT	1.084***	
	(4.83)	
REP_{AVG}		-0.472*
		(-1.77)
ROA	0.329	-5.710***
	(1.06)	(-5.58)
LEV	0.117	3.527***
	(0.66)	(6.64)
COVER	-0.000	0.000
	(-0.68)	(0.38)
SDNI	-0.080	8.101***
	(-0.17)	(6.62)
LOSS	0.040	0.025
	(0.90)	(0.17)
INTAN	-0.712	-0.442
	(-1.32)	(-0.32)
ΔEQ	-0.052	0.210*
	(-1.03)	(1.67)
RET	-0.022	0.554***
	(-1.46)	(13.25)
SDRET	-0.875*	24.134***
	(-1.71)	(12.97)
BM	0.009	0.123
	(0.36)	(1.36)
SIZE	-0.021	-1.036***
	(-0.89)	(-15.32)
PRC	0.002**	-0.005**
	(2.31)	(-2.22)
ABACC	0.119	-1.238**
	(0.72)	(-2.57)
NANAL	0.004	-0.099
	(0.18)	(-1.47)
N	5,086	5,086
Pseudo R^2	0.097	0.680

The sample period is from 1992 through 2012. Industry and year fixed effects are included in all regressions, and the z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 7 Regression of Credit Ratings on CEO Political Ideology: Matched Sample Analysis

Dependent Variable:	*RATING*
REP_{AVG}	-0.220***
	(-3.99)
ROA	-7.421***
	(-8.15)
LEV	4.457***
	(13.12)
COVER	-0.001
	(-0.70)
SDNI	8.857***
	(8.30)
LOSS	0.045
	(0.25)
INTAN	-0.829
	(-0.91)
ΔEQ	0.206*
	(1.84)
RET	0.627***
	(13.58)
SDRET	27.545***
	(19.23)
BM	0.498***
	(2.86)
SIZE	-1.150***
	(-21.40)
PRC	0.000
	(0.19)
ABACC	-0.713
	(-1.24)
NANAL	-0.098**
	(-1.99)
N	2,100
Pseudo R^2	0.227

The sample period is from 1992 through 2012. Industry and year fixed effects are included in the regression, and the z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 8 Cross-sectional Analyses – The role of Information Uncertainty

Panel A: Past Variability (*PVAR*)

	HIGH PVAR	*LOW PVAR*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.539***	-0.289**
	(-4.27)	(-2.31)
ROA	-10.666***	-4.687***
	(-4.82)	(-4.19)
LEV	5.896***	2.420***
	(6.80)	(3.93)
COVER	0.000	0.000
	(0.94)	(0.11)
SDNI	12.123***	8.599***
	(4.99)	(5.09)
LOSS	0.044	0.100
	(0.13)	(0.55)
INTAN	-3.054	-1.234
	(-1.57)	(-0.75)
ΔEQ	-0.061	0.140
	(-0.38)	(0.77)
RET	0.823***	0.484***
	(7.89)	(10.09)
SDRET	32.538***	21.114***
	(8.66)	(9.97)
BM	0.718*	-0.042
	(1.68)	(-0.74)
SIZE	-1.210***	-1.157***
	(-11.40)	(-12.41)
PRC	-0.001	-0.007*
	(-0.25)	(-1.82)
ABACC	-2.364***	-1.435**
	(-3.55)	(-2.16)
NANAL	0.041	-0.009
	(0.57)	(-0.08)
N	1,725	1,729
Pseudo R^2	0.252	0.243
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=3.26* p-value=0.071	

Panel B: Capital Intensity (*CAPINT*)

	HIGH CAPINT	*LOW CAPINT*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.142	-0.475***
	(-0.79)	(-3.38)
ROA	-7.946***	-5.731***
	(-3.92)	(-2.91)
LEV	5.145***	3.592***
	(6.80)	(3.37)
COVER	0.000	-0.000
	(0.20)	(-0.26)
SDNI	13.950***	10.257***
	(4.55)	(5.07)
LOSS	0.156	-0.032
	(0.65)	(-0.11)
INTAN	4.918**	-7.726***
	(2.27)	(-3.06)
ΔEQ	0.193	0.101
	(1.03)	(0.41)
RET	0.635***	0.588***
	(6.26)	(8.20)
SDRET	24.799***	22.393***
	(6.98)	(8.00)
BM	0.070	0.262
	(0.92)	(0.59)
SIZE	-1.163***	-1.263***
	(-9.58)	(-10.51)
PRC	-0.006	-0.000
	(-1.20)	(-0.04)
ABACC	-0.669	-1.179*
	(-1.16)	(-1.65)
NANAL	-0.064	0.287***
	(-0.51)	(2.98)
N	1,734	1,729
Pseudo R^2	0.273	0.229
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=5.43** p-value=0.012	

Panel C: Growth Industry (*GROWTH*)

	HIGH GROWTH	*LOW GROWTH*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.690***	-0.181*
	(-3.12)	(-1.66)
ROA	-2.870	-7.686***
	(-1.54)	(-6.00)
LEV	2.721**	4.589***
	(2.10)	(7.72)
COVER	0.000	-0.000
	(0.04)	(-0.01)
SDNI	9.818***	9.038***
	(3.26)	(5.93)
LOSS	0.135	-0.024
	(0.40)	(-0.15)
INTAN	-2.033	-1.770
	(-0.69)	(-0.87)
ΔEQ	0.535*	0.131
	(1.72)	(0.94)
RET	0.527***	0.648***
	(5.78)	(11.01)
SDRET	25.221***	23.789***
	(7.23)	(10.44)
BM	0.116	0.104
	(0.25)	(0.75)
SIZE	-1.795***	-1.166***
	(-11.39)	(-12.69)
PRC	-0.002	-0.004
	(-0.27)	(-1.41)
ABACC	0.343	-1.195**
	(0.31)	(-2.36)
NANAL	0.212	-0.016
	(1.34)	(-0.22)
N	976	4,235
Pseudo R^2	0.342	0.231
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=5.15** p-value=0.023	

The sample period is from 1992 through 2012. Industry and year fixed effects are included in all regressions, and the z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 9 Cross-sectional Analyses – The Role of Corporate Governance

Panel A: Institutional Ownership Stability (*IOSTB*)

	HIGH IOSTB	*LOW IOSTB*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.253*	-0.463***
	(-1.68)	(-3.68)
ROA	-9.489***	-4.157***
	(-3.08)	(-3.57)
LEV	4.382***	4.136***
	(3.93)	(7.47)
COVER	0.001	0.000
	(0.37)	(0.58)
SDNI	15.177***	6.159***
	(4.51)	(3.90)
LOSS	0.081	0.089
	(0.25)	(0.46)
INTAN	-3.098	-1.941
	(-1.23)	(-0.95)
ΔEQ	-0.009	0.431*
	(-0.04)	(1.91)
RET	0.795***	0.406***
	(5.63)	(8.61)
SDRET	30.797***	22.578***
	(8.19)	(10.96)
BM	0.846	-0.034
	(1.56)	(-0.42)
SIZE	-1.335***	-1.067***
	(-7.99)	(-11.10)
PRC	0.002	-0.003
	(0.56)	(-0.87)
ABACC	-1.343*	-1.584**
	(-1.76)	(-2.14)
NANAL	0.109	0.130
	(0.85)	(0.95)
N	1,706	1,706
Pseudo R^2	0.257	0.212
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=4.13** p-value=0.042	

Panel B: Dedicated Institutional Ownership (*DEDIO*)

	HIGH DEDIO	*LOW DEDIO*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.206	-0.423***
	(-1.37)	(-2.91)
ROA	-9.793***	-4.184***
	(-3.21)	(-3.59)
LEV	3.567***	3.756***
	(3.48)	(5.32)
COVER	0.000	-0.001
	(1.25)	(-1.17)
SDNI	14.965***	8.005***
	(4.81)	(3.79)
LOSS	-0.176	0.348
	(-0.47)	(1.22)
INTAN	1.578	-0.902
	(0.65)	(-0.39)
ΔEQ	-0.026	0.490**
	(-0.12)	(2.28)
RET	0.737***	0.467***
	(6.84)	(7.36)
SDRET	24.169***	26.938***
	(6.61)	(9.76)
BM	0.215	0.163
	(0.51)	(0.45)
SIZE	-1.412***	-1.214***
	(-9.94)	(-11.35)
PRC	0.004	-0.001
	(1.54)	(-0.23)
ABACC	-0.570	-0.281
	(-0.74)	(-0.31)
NANAL	0.084	0.001
	(0.72)	(0.01)
N	1,390	1,390
Pseudo R^2	0.261	0.270
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=3.19* p-value=0.074	

Panel C: Governance Index (*GINDEX*)

	HIGH GINDEX	*LOW GINDEX*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.597***	-0.074
	(-2.65)	(-0.45)
ROA	-14.684***	0.217
	(-4.17)	(0.11)
LEV	3.993***	4.796***
	(2.75)	(3.84)
COVER	0.008	0.000
	(1.10)	(0.66)
SDNI	15.886***	10.355***
	(4.21)	(4.02)
LOSS	-0.507	0.545
	(-1.38)	(1.62)
INTAN	-3.419	1.544
	(-0.90)	(0.69)
ΔEQ	0.331	-0.128
	(1.18)	(-0.42)
RET	0.930***	0.537***
	(6.65)	(8.34)
SDRET	22.145***	26.526***
	(4.50)	(6.66)
BM	1.034**	-0.107
	(2.18)	(-0.26)
SIZE	-1.476***	-1.287***
	(-7.82)	(-9.03)
PRC	0.002	-0.001
	(0.25)	(-0.61)
ABACC	-0.527	0.830
	(-0.62)	(1.02)
NANAL	0.057	0.082
	(0.35)	(0.52)
N	1,326	1,327
Pseudo R^2	0.260	0.290
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=3.69* p-value=0.055	

The sample period is from 1992 through 2012. Industry and year fixed effects are included in all regressions, and the z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 10 Tests for Economic Bonding

Panel A: CEO Tenure (*TENURE*)

	LONG TENURE	*SHORT TENURE*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.346***	-0.236*
	(-6.91)	(-1.92)
ROA	-6.467***	-6.622***
	(-8.74)	(-4.58)
LEV	4.277***	3.619***
	(15.67)	(4.81)
COVER	0.000	0.000
	(0.14)	(1.63)
SDNI	10.058***	9.650***
	(10.78)	(4.76)
LOSS	0.069	-0.027
	(0.49)	(-0.13)
INTAN	-1.417*	-2.528
	(-1.87)	(-1.34)
ΔEQ	0.118	0.367**
	(1.45)	(2.04)
RET	0.619***	0.553***
	(17.42)	(7.07)
SDRET	24.929***	26.161***
	(21.99)	(8.68)
BM	0.116	0.034
	(1.07)	(0.32)
SIZE	-1.245***	-1.092***
	(-33.48)	(-12.04)
PRC	-0.003*	-0.006
	(-1.92)	(-1.56)
ABACC	-0.978**	-1.288*
	(-2.36)	(-1.84)
NANAL	0.064*	0.011
	(1.76)	(0.14)
N	3,633	1,581
Pseudo R^2	0.244	0.251
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=0.71 p-value=0.400	

Panel B: Investment Grade Cutoff (*IG_CUTOFF*)

	IG_CUTOFF	*Non IG_CUTOFF*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.176**	-0.288**
	(-2.26)	(-2.43)
ROA	-0.144	-6.125***
	(-0.10)	(-4.45)
LEV	2.813***	3.345***
	(4.52)	(5.01)
COVER	0.000	-0.000
	(0.12)	(-0.27)
SDNI	2.176	11.850***
	(1.15)	(6.33)
LOSS	0.248	0.251
	(1.22)	(1.31)
INTAN	-2.248	-0.632
	(-0.96)	(-0.39)
ΔEQ	0.291	-0.081
	(1.31)	(-0.49)
RET	0.335***	0.643***
	(5.68)	(9.78)
SDRET	20.117***	22.947***
	(6.99)	(9.93)
BM	0.099	0.043
	(0.39)	(0.54)
SIZE	-0.511***	-1.120***
	(-3.86)	(-11.43)
PRC	-0.002	-0.007**
	(-0.84)	(-2.29)
ABACC	-1.402*	-0.282
	(-1.79)	(-0.42)
NANAL	-0.156	-0.007
	(-1.44)	(-0.11)
N	1,755	3,459
Pseudo R^2	0.109	0.280
Wald Tests for Coefficient Differences for REP_{AVG}	χ^2=0.38 p-value=0.540	

The sample period is from 1992 through 2012. Industry and year fixed effects are included in all regressions, and the z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 11 Channels through which Political Ideology Affect Credit Ratings

Panel A: Regressions of Future Return Volatility (*SDRET_FUT*) and Future Earnings Volatility (*SDNI_FUT*) on CEO Political Ideology

Dependent Variable:	*SDNI_FUT*	*SDRET_FUT*
	(1)	(2)
REP_{AVG}	-0.003***	-0.001*
	(-2.58)	(-1.68)
ROA		-0.089***
		(-11.41)
RET	0.001*	
	(1.73)	
SDNI	0.287***	
	(15.42)	
SDRET		0.408***
		(30.31)
BM	0.003**	0.004***
	(2.51)	(3.77)
SIZE	-0.002***	-0.007***
	(-3.25)	(-14.93)
CONSTANT	0.030***	0.083***
	(4.19)	(15.54)
N	4,377	5,211
ADJ_R^2	0.107	0.484

Panel B: Regressions of Credit Ratings on CEO Political Ideology Including Channel Variables

Dependent Variable:	*RATING*	*RATING*
	(1)	(2)
REP_{AVG}	-0.309***	-0.323***
	(-2.72)	(-2.84)
SDNI_FUT	5.001***	
	(3.46)	
SDRET_FUT	6.822***	
	(3.94)	
ROA	-5.968***	-6.621***
	(-5.24)	(-5.80)
LEV	4.345***	4.130***
	(6.72)	(6.55)
COVER	0.000	0.000
	(0.54)	(0.29)
SDNI	8.774***	9.724***
	(5.52)	(5.98)
LOSS	-0.100	0.000
	(-0.63)	(0.00)
INTAN	-2.496*	-1.759
	(-1.65)	(-1.12)
ΔEQ	0.186	0.205
	(1.33)	(1.45)
RET	0.580***	0.613***
	(11.58)	(12.16)
SDRET	22.523***	25.281***
	(11.65)	(12.34)
BM	0.012	0.041
	(0.15)	(0.37)
SIZE	-1.182***	-1.192***
	(-13.72)	(-13.97)
PRC	-0.003	-0.004
	(-1.19)	(-1.60)
ABACC	1.478***	1.332**
	(2.71)	(2.42)
NANAL	0.112	0.108
	(1.37)	(1.36)
N	4,377	4,377
Pseudo R^2	0.253	0.244

The sample period is from 1992 through 2012. Industry and year fixed effects are included in all regressions, and the z-values reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

Table 12 Robustness Tests

Panel A: Controlling for CEO Equity Incentives and Managerial Ability

Dependent Variable:	*RATING*	*RATING*
	(1)	(2)
REP_{AVG}	-0.271***	-0.296***
	(-2.64)	(-2.86)
LOG_DELTA	0.274***	
	(5.86)	
LOG_VEGA		0.071*
		(1.82)
MA	-0.410**	-0.409**
	(-1.99)	(-2.06)
ROA	-6.295***	-5.811***
	(-5.50)	(-5.16)
LEV	4.037***	3.921***
	(6.28)	(6.07)
COVER	0.001*	0.000
	(1.75)	(1.36)
SDNI	10.363***	9.861***
	(6.59)	(6.44)
LOSS	0.014	-0.019
	(0.09)	(-0.12)
INTAN	-1.410	-1.635
	(-0.93)	(-1.09)
ΔEQ	0.148	0.187
	(1.11)	(1.41)
RET	0.599***	0.652***
	(11.95)	(13.08)
SDRET	24.979***	26.360***
	(12.16)	(12.77)
BM	0.756***	0.613***
	(3.31)	(2.81)
SIZE	-1.406***	-1.265***
	(-15.68)	(-15.09)
PRC	-0.001	-0.002
	(-0.58)	(-0.81)
ABACC	1.009**	1.067**
	(2.23)	(2.31)
NANAL	-0.140*	-0.127*
	(-1.79)	(-1.66)
N	4,812	4,812
Pseudo R^2	0.248	0.241

Panel B: Investment-grade versus Speculative-grade

Dependent Variable:	*Pr (SPECULATIVE-GRADE)*
REP_{AVG}	-0.292*
	(-1.80)
ROA	-4.132***
	(-2.58)
LEV	4.878***
	(6.32)
COVER	0.000
	(0.50)
SDNI	8.808***
	(3.63)
LOSS	-0.115
	(-0.49)
INTAN	1.632
	(0.74)
ΔEQ	0.215
	(0.93)
RET	0.635***
	(8.76)
SDRET	30.916***
	(8.67)
BM	-0.290
	(-1.16)
SIZE	-1.433***
	(-9.55)
PRC	-0.010*
	(-1.81)
ABACC	2.117**
	(2.23)
NANAL	0.099
	(0.89)
CONSTANT	3.441**
	(2.40)
N	5,211
Pseudo R^2	0.511

Panel C: Alternative Political Ideology Measures

	ID= REP_{IND}	*ID= REP_{PCT}*	*ID=REP*
Dependent variable: RATING	(1)	(2)	(3)
ID	-0.155**	-0.227**	-0.267***
	(-1.97)	(-2.33)	(-3.51)
ROA	-6.846***	-6.770***	-7.053***
	(-6.44)	(-6.39)	(-6.14)
LEV	4.072***	4.094***	4.018***
	(7.17)	(7.25)	(6.72)
COVER	0.000	0.000	0.001*
	(1.20)	(1.11)	(1.95)
SDNI	9.637***	9.656***	9.374***
	(7.11)	(7.10)	(6.57)
LOSS	0.005	0.018	0.018
	(0.04)	(0.12)	(0.11)
INTAN	-1.356	-1.470	-2.326
	(-0.94)	(-1.01)	(-1.49)
ΔEQ	0.185	0.178	0.195
	(1.48)	(1.42)	(1.48)
RET	0.600***	0.598***	0.582***
	(12.97)	(12.95)	(12.04)
SDRET	25.593***	25.539***	25.123***
	(13.28)	(13.23)	(11.84)
BM	0.071	0.069	0.036
	(0.55)	(0.52)	(0.47)
SIZE	-1.164***	-1.173***	-1.167***
	(-15.05)	(-15.13)	(-14.88)
PRC	-0.004	-0.003	-0.004
	(-1.55)	(-1.44)	(-1.54)
ABACC	1.079**	1.078**	1.214**
	(2.33)	(2.33)	(2.57)
NANAL	0.044	0.047	0.038
	(0.64)	(0.69)	(0.49)
N	5,211	5,211	4,150
Pseudo R^2	0.242	0.243	0.243

Panel D: Subsample Excluding Observations with CEO Campaign Contributions to both Parties

Dependent Variable:	*RATING*
REP_{AVG}	-0.259*
	(-1.81)
ROA	-6.221***
	(-2.93)
LEV	3.878***
	(4.06)
COVER	0.000
	(0.88)
SDNI	9.543***
	(3.63)
LOSS	0.434*
	(1.66)
INTAN	3.070
	(1.31)
ΔEQ	0.078
	(0.38)
RET	0.575***
	(6.07)
SDRET	27.654***
	(9.18)
BM	0.206
	(0.34)
SIZE	-1.461***
	(-9.93)
PRC	0.005
	(1.41)
ABACC	-0.976
	(-1.06)
NANAL	-0.026
	(-0.26)
N	1,566
Pseudo R^2	0.274

Panel E: Controlling for State Fixed Effects

Dependent Variable:	*RATING*
REP_{AVG}	-0.257**
	(-2.43)
ROA	-6.498***
	(-6.50)
LEV	4.003***
	(7.83)
COVER	0.000
	(0.60)
SDNI	9.291***
	(6.12)
LOSS	0.039
	(0.26)
INTAN	-3.670**
	(-2.48)
ΔEQ	0.202
	(1.48)
RET	0.620***
	(13.92)
SDRET	25.496***
	(13.76)
BM	0.057
	(0.59)
SIZE	-1.257***
	(-15.37)
PRC	-0.003
	(-1.29)
ABACC	-0.994**
	(-2.15)
NANAL	-0.070
	(-0.91)
N	5,211
Pseudo R^2	0.272

Panel F: Controlling for Firm Fixed Effects

	OLS with Industry-Year Fixed Effect	*OLS with Firm-Year Fixed Effect*
DEP = RATING	(1)	(2)
REP_{AVG}	-0.294***	-0.099**
	(-3.26)	(-2.22)
ROA	-5.525***	-1.918***
	(-5.85)	(-5.20)
LEV	3.588***	1.462***
	(7.07)	(7.24)
COVER	0.000	-0.000
	(0.19)	(-0.99)
SDNI	8.257***	3.039***
	(7.31)	(5.53)
LOSS	0.116	-0.072
	(0.83)	(-1.07)
INTAN	-1.306	-3.547***
	(-1.02)	(-4.63)
ΔEQ	0.146	0.089
	(1.26)	(1.58)
RET	0.543***	0.374***
	(14.87)	(20.28)
SDRET	22.935***	13.102***
	(13.08)	(21.30)
BM	0.090	-0.113***
	(1.00)	(-3.48)
SIZE	-1.098***	-1.015***
	(-18.37)	(-27.20)
PRC	-0.004*	-0.002***
	(-1.79)	(-2.62)
ABACC	1.062**	0.882***
	(2.42)	(3.77)
NANAL	0.007	-0.246***
	(0.12)	(-7.81)
CONSTANT	12.477***	14.781***
	(19.97)	(43.85)
N	5,211	5,211
Adjusted R^2	0.698	0.894

The sample period is from 1992 through 2012. Industry and year fixed effects are included in all regressions, and the z-values (t-values) reported in parentheses are based on standard errors for the coefficient estimates that are heteroskedasticity-robust and clustered by firm. Significance levels are based on two-tailed tests: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are defined in Appendix A.

REFERENCE

Abramowitz, A., and K. Saunders. 2006. Exploring the bases of partisanship in the American electorate: Social identity vs. ideology. *Political Research Quarterly* 59 (2): 175-187.

Alissa, W., S. B. Bonsall IV, K. Koharki, and M. W. Penn Jr. 2013. Firms' use of accounting discretion to influence their credit ratings. *Journal of Accounting and Economics* 55 (2–3):129-147.

Ansolabehere, S., J. M. de Figueiredo, and J. M. Snyder, Jr. 2003. Why is there so little money in U.S. politics? *Journal of Economic Perspectives* 17 (1): 105-130.

Ashbaugh-Skaife, H., D. W. Collins, and R. LaFond. 2006. The effects of corporate governance on firms' credit ratings. *Journal of Accounting and Economics* 42 (1-2):203-243.

Ayers, B. C., S. K. Laplante, and S. T. McGuire. 2010. Credit ratings and taxes: The effect of book-tax differences on ratings changes. *Contemporary Accounting Research* 27 (2):343-343.

Baron, R. M. and D. A. Kenny. 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 51 (6): 1173-1182.

Bhojraj, S., and P. Sengupta. 2003. Effect of corporate governance on bond ratings and yields: The role of institutional investors and outside directors. *Journal of Business* 76 (3):455-475.

Block, J. and J. H. Block. 2006. Nursery school personality and political orientation two decades later. *Journal of Research in Personality* 40 (5): 734-749.

Bonsall IV, S. B., E. R. Holzman, and B. P. Miller 2016. Managerial ability and credit risk assessment. *Management Science* (Forthcoming)

Burris, V. 2001. The two faces of capital: Corporations and individual capitalists as political actors. *American Sociological Review* 66 (3): 361-381.

Bushee, B. J. 1998. The influence of institutional investors on myopic R&D investment behavior. *The Accounting Review* 73 (3): 305-333.

Cain, M. D. and S. B. McKeon. 2016. CEO personal risk-taking and corporate policies. *Journal of Financial and Quantitative Analysis* 51 (1): 139-164.

Callen, J.L., and Fang, X., 2013. Institutional investor stability and crash risk: monitoring versus short-termism? *Journal of Banking and Finance* 37, 3047-3063.

Callen, J. L. and X. Fang. 2015. Religion and stock price crash risk. *Journal of Financial and Quantitative Analysis* 50 (1-2): 169-195.

Carney, D. R., J. T. Jost, S. D. Gosling, and J. Potter. 2008. The secret lives of liberals and conservatives: Personality profiles, interaction styles, and the things they leave behind. *Political Psychology* 29 (6): 807-840.

Cheng, C.S.A, W. Huang, S. Li, and Y. Zhang. 2017. When beliefs guide actions: CEO political ideology and accounting conservatism. Working paper, The Hong Kong Polytechnic University.

Cheng, M., and K. R. Subramanyam. 2008. Analyst following and credit ratings. *Contemporary Accounting Research* 25 (4):1007-1043.

Chin, M. K., D. C. Hambrick, and L. K. Treviño. 2013. Political ideologies of CEOs: The influence of executives' values on corporate social responsibility. *Administrative Science Quarterly* 58 (2): 197-232.

Christensen, D., D. Dhaliwal, S. Boivie, and S. Graffin. 2015. Top management conservatism and corporate risk strategies: Evidence from managers' personal political orientation and corporate tax avoidance. *Strategic Management Journal* 36 (12): 1918-1938.

Chyz, J. A. 2013. Personally tax aggressive executives and corporate tax sheltering. *Journal of Accounting and Economics* 56 (2-3): 311–328.

Cicero, D. C. 2009. The manipulation of executive stock option exercise strategies: Information timing and backdating. *Journal of Finance* 64 (6): 2627-2663.

Cronqvist, H., A. K. Makhija, and S. E. Yonker. 2012. Behavioral consistency in corporate finance: CEO personal and corporate leverage. *Journal of Financial Economics* 103 (1): 20-40.

Davidson, R., A. Dey, and A. Smith. 2015. Executives' "off-the-job" behavior, corporate culture, and financial reporting risk. *Journal of Financial Economics* 117 (1): 5-28.

Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1995. Detecting earnings management. *The Accounting Review* 70 (2):193-225.

Demerjian, P., B. Lev, and S. McVay. 2012. Quantifying Managerial Ability: A New Measure and Validity Tests. *Management Science 58* (7): 1229-1248.

Dhaliwal, D., M. Erickson, and S. Heitzman. 2009. Taxes and the back dating of stock option exercise dates. *Journal of Accounting and Economics* 47 (1-2): 27-49.

Di Giuli, A. and L. Kostovetsky. 2014. Are red or blue companies more likely to go green? Politics and corporate social responsibility. *Journal of Financial Economics* 111 (1): 158-180.

Epstein, S. 1979. The stability of behavior: I. On predicting most of the people much of the time. *Journal Of Personality And Social Psychology* 37 (7): 1097-1126.

Epstein, S. 1980. The stability of behavior: II. Implications for psychological research. American psychologist 35 (9): 790-806.

Erikson, R. S. and K. L. Tedin. 2003. American Public Opinion. New York: Longman. 6th edition.

Fama, E. F. and K. R. French, K. 1997. Industry costs of equity. *Journal of Financial Economics* 43 (2): 153-193.

Finkelstein, S, D. C. Hambrick, and A. A. Cannella Jr. 2009. Strategic Leadership: Theory and Research on Executives, Top Management Teams, and Boards. Oxford University Press: New York, NY.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39 (2):295-327.

Funder, D. C. and C. R. Colvin. 1991. Explorations in behavioral consistency: Properties of persons, situations, and behaviors. *Journal of Personality and Social Psychology* 60 (5): 773-794.

Fremeth, A., B. K. Richter, and B. Schaufele. 2013. Campaign contributions over CEOs' careers. *American Economic Journal: Applied Economics* 5 (3): 170-188.

Gompers, P., J. Ishii, and A. Metrick. 2003. Corporate governance and equity prices. *Quarterly Journal of Economics* 118 (1): 107-155.

Graham, J. R., C. R. Harvey, and M. Puri. 2013. Managerial attitudes and corporate actions. *Journal of Financial Economics* 109 (1): 103-121.

Green, D., B. Palmquist, and E. Schickler. 2002. Partisan hearts and minds: Political parties and the social identities of voters. Yale University Press.

Greene, W. H. 2011. Econometric Analysis (7th Edition). Prentice Hall: Upper Saddle River, NJ.

Grinblatt, M., and Titman, S., 2002. Financial markets and corporate strategy. McGraw-Hill Irwin, New York.

Ham, C., and K. Koharki. 2016. The association between corporate general counsel and firm credit risk. *Journal of Accounting and Economics* 61 (2–3):274-293.

He, J. and X. Tian. 2013. The dark side of analyst coverage: The case of innovation. *Journal of Financial Economics* 109 (3): 856-878.

Hong, H. and L. Kostovetsky. 2012. Red and blue investing: Values and finance. *Journal of Financial Economics* 103 (1): 1-19.

Horrigan, J. O. 1966. Determination of long-term credit standing with financial ratios. *Journal of Accounting Research* 4:44-62.

Hribar, P., and D. W. Collins. 2002. Errors in estimating accruals: implications for empirical research. *Journal of Accounting Research* 40 (1):105-134.

Hutton, I., D. Jiang, and A. Kumar. 2014. Corporate policies of Republican managers. *Journal of Financial and Quantitative Analysis* 49 (5/6): 1279-1310.

Hutton, I., D. Jiang, and A. Kumar. 2015. Political values, culture, and corporate litigation. *Management Science* 61 (12): 2905-2925.

Jiang, D., A. Kumar, and K. Law. 2016. Political contributions and analyst behavior. *Review of Accounting Studies* 21 (1): 37-88.

Jost, J. T. 2006. The end of the end of ideology. *American Psychologist* 61 (7): 651-670.

Jost, J. T. and D. M. Amodio. 2012. Political ideology as motivated social cognition: Behavioral and neuroscientific evidence. *Motivation and Emotion* 36 (1): 55-64.

Jost, J.T., J. Glaser, A.W. Kruglanski, and F.J. Sulloway. 2003. Political conservatism as motivated social cognition. *Psychological Bulletin* 129 (3): 339–375.

Jost J. T., J. L. Napier, H. Thorisdottir, S. D. Gosling, T. P. Palfai, and B. Ostafin. 2007. Are needs to manage uncertainty and threat associated with political conservatism or ideological extremity? *Personality and Social Psychology Bulletin* 33 (7): 989-1007.

Jung, B., N. Soderstrom, and Y. S. Yang. 2013. Earnings smoothing activities of firms to manage credit ratings. *Contemporary Accounting Research* 30 (2):645-676.

Kam, C. D. and E. N. Simas. 2010. Risk orientations and policy frames. *The Journal of Politics* 72 (2): 381-396.

Kaplan, R. S., and G. Urwitz. 1979. Statistical models of bond ratings: A methodological inquiry. *Journal of Business* 52 (2):231-261.

Kuang, Y. F., and B. Qin. 2013. Credit ratings and CEO risk-taking incentives. *Contemporary Accounting Research* 30 (4):1524-1559.

Myers, S. C., and N. S. Majluf. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13 (2):187.

Petersen, M. A. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies* 22 (1): 435-480.

Roberts, M. R., and T. M. Whited. 2013. Endogeneity in empirical corporate finance. Chapter 7 in Handbook of the Economics of Finance, Volume 2, Part A, ed. George M. Constantinides, Milton Harris, and Rene M. Stulz, 493-572.

Shipman, J., Q. T. Swanquist, and R. Whited. 2017. Propensity Score Matching in Accounting Research. *The Accounting Review* 92, 213-244.

Shook, N. J. and R. H. Fazio. 2009. Political ideology, exploration of novel stimuli, and attitude formation. *Journal of Experimental Social Psychology* 45 (4): 995-998.

Wilson, G. 1973. The Psychology of Conservatism. London: Academic Press.

White, H. 1980. A heteroscedasticity-consistent covariance matrix estimator and a direct test for heteroscedasticity, *Econometrica* 48 (4): 817-838.