

Agency Costs of CEO Partisanship*

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Abstract

We exploit a unique capital structure framework to find CEOs' political partisanship may represent an agency cost to shareholders. The framework separates managerial leverage choices based on risk and tax considerations. We find partisan Democrat CEOs take 2.8 years longer than non-partisan CEOs to adjust upwards to optimal leverage ratios, signifying an agency cost in the form of sub-optimal capital structure. Using an exogenous shock to corporate demand for debt, the 2017 Tax Cut and Jobs Act (TCJA), we find under-leveraged firms led by partisan Democrat CEOs stop adjusting to their optimal leverage ratios altogether. Results suggest that increasing CEO wealth sensitivity to firm's value significantly reduces agency costs of partisanship.

JEL classification: G32, G34, G41

Keywords: Agency costs, CEO, political ideology, costs of capital, target leverage ratio, capital structure, Democrat, Republican, Tax Cut and Jobs Act.

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1 Introduction

When investing during times of extreme political polarization, shareholders may question whether CEO political ideology impacts corporate decision making. For instance, liberal managers seem to value corporate social responsibility to a greater degree than their conservative counterparts (Hong and Kostovetsky, 2012; Di Giuli and Kostovetsky, 2014) while conservative managers exercise more restraint when it comes to investment and leverage choices (Hutton, Jiang, and Kumar, 2014; Elnahas and Kim, 2017; Benmelech and Frydman, 2015). On the subject of corporate risk taking and taxes, conventional wisdom postulates that Democrats are tolerant of higher taxes and higher levels of risk, while Republicans are averse to both¹. In this paper, we examine whether politically motivated and contrasting managerial views about risk and taxes affect how CEOs perceive the benefits and costs of debt, and thus CEOs' leverage choices.

Optimal capital structure enhances shareholder value by balancing the benefits of tax-reducing debt with the drawbacks of financial distress due to increasing leverage. We hypothesize that Democrat and Republican managers perceive the tax-benefit of debt and risks of higher leverage differently. However, it is unclear how this may differ. For instance, Republican managers' risk-aversion indicates a preference for lower levels of debt due to conservative corporate policies, while their tax-aversion indicates a preference for higher leverage to maximize the tax advantages of debt. Similarly, Democrats' risk-tolerance implies higher debt levels due to riskier firm policies, while their tax-tolerance indicates lower leverage due to less urgency in utilizing the tax-benefits of debt.

To separate CEOs' leverage choices driven by risk and tax consideration and document the implication of these choices on shareholder value, we examine firms' adjustment speed toward the target leverage. Studying firms' speed of adjustment (SOA) allows us to exploit a

¹Reed (2006) shows that Democratic administrations have higher taxes than Republicans at the state level and Inclan, Quinn, and Shapiro (2001) show similar results at the federal level. The psychology literature (e.g. Jost, Glaser, Kruglanski, and Sulloway (2003), McCrae (1996), Tomkins (1963), and Wilson (1973)) suggests liberals are creative and open to risk, while conservatives are more orderly, rigid, and risk averse.

unique capital structure framework that examines managerial leverage choices when the firm is above vs. below its target leverage. When a firm is below its target leverage, bankruptcy risk is negligible, mainly leaving tax purposes of debt to consider for target adjustment speeds. Thus, adjustment speeds of under-leveraged firms measure the impact of managerial attitude toward taxes that is not confounded with attitude toward risk. When a firm is above target leverage, bankruptcy risk and financial distress are high while tax benefits are low due to greater exhaustion of deductions at higher leverage ratios. Therefore, the SOA for over-leveraged firms isolates the impact of managerial attitudes toward risk from managerial attitudes toward taxes. We expect CEOs' politically motivated views about risk and taxes are related to SOA towards the target leverage in a manner that affects shareholders' value.

We identify CEOs' political leanings using political contribution data from the Federal Election Commission (FEC)². We rely on a firm-year panel of 16,567 covering the period from 2003-2018. We calculate optimal target debt ratios by using yearly cross sectional regressions using a set of firm and 3 digit SIC industry characteristics, similar to [Byoun \(2008\)](#) and [Flannery and Rangan \(2006\)](#). Firm and industry characteristics such as size, R&D spending, depreciation, market-to-book ratios and median debt ratio are used to estimate target leverage ratios in order to account for differences between firms such as growth and value companies. We also incorporate industry fixed effects at the 3-digit SIC code level to account for time-invariant industry specific factors and time fixed effects to account for time specific industry invariant that may influence a firm's speed to target leverage ratio.

Our main result (Table 6) shows under-leveraged firms with partisan Democrat CEOs take 2.8 more years (6.7 vs 3.9) to revert to optimal leverage ratios. Since under-leveraged firms are less likely to experience bankruptcy risk or financial distress, Democrat CEOs' slower SOA is likely related to their attitude towards debt. Thus, the 2.8 additional years of target adjustment represent agency costs to shareholders, as under-leveraged firms with partisan Democrat CEOs miss out on the tax benefits of debt. We do not find such agency

²The FEC is an independent regulatory agency that since 1979 is providing information about contributor's donation, name, occupation, employer, and address for contributions exceeding \$200.

costs in firms managed by partisan Republican CEOs.

Next, we examine an exogenous demand shock to corporate debt. We expect firms to respond heterogeneously depending on CEOs' politically associated views on risk and taxes. The Tax Cut and Jobs Act (TCJA) represents a shock that reduced corporate debt demand by limiting interest tax deductions and reducing corporate tax rates from 35% to 21%. Consistent with a demand shock, Table 7 shows under-levered firms increased SOA time from 4 years before TCJA to about 7.7 years after TCJA. After controlling for CEO incentives and board monitoring, under-leveraged firms with partisan Democrat effectively completely stopped adjusting towards their target leverage in response to TCJA. The act does not seem to affect the adjustment speeds of firms with Republican CEOs. We conclude that these heterogeneous treatment effects from TCJA suggest that agency costs of CEO political ideology are inherent for under-leveraged firms with partisan Democrat CEOs. To lend support to the agency cost interpretation, we find that increased CEO wealth exposure to firm value and board monitoring significantly reduces agency costs related to slower SOA (Table 8). Lastly as a robustness check, we conduct propensity score matching and find support to our conclusion that partisan attitudes toward taxes are driving our findings (Table 10).

Our findings contribute to the extensive literature that relates CEO characteristics, personal choices, and personalities to corporate outcomes and corporate financial decisions. (Cronqvist, Makhija, and Yonker, 2012; Benmelech and Frydman, 2015; Hong and Kostovetsky, 2012; Di Giuli and Kostovetsky, 2014; Elnahas and Kim, 2017; Hutton et al., 2014; Bayat and Goergen, 2020). We provide clarity and guidance on the inconclusive debate where Francis, Hasan, Sun, and Wu (2016) finds Republican CEOs engage in more tax sheltering due to greater tax-aversion, while Christensen, Dhaliwal, Boivie, and Graffin (2015) finds Democrat CEOs engage in more tax sheltering due to risk-tolerance. Our research also impacts capital structure research by being the first to examine CEO political ideology as an agency cost for leverage speed of adjustment. As far as we are aware, previous

literature has attributed determinants of target leverage adjustment speeds to adjustment costs, macro-economic factors, and firm-specific characteristics (Fischer, Heinkel, and Zechner, 1989; Altinkılıç and Hansen, 2000; Byoun, 2008; Faulkender, Flannery, Hankins, and Smith, 2012; Chang, Chou, and Huang, 2014; Korajczyk and Levy, 2003; Cook and Tang, 2010; Drobetz, Schilling, and Schröder, 2015). Our findings have implications for the three preeminent capital structure theories: trade-off, market timing, and pecking order. Agency costs of political ideology can impact the trade-offs of debt, increase debt costs for market timing, and impact information asymmetry that outside investors have of inside management characteristics.

In Section 2, we present our testable hypotheses. In Section 3, we discuss CEO, political contribution, and capital structure data used in the empirical tests. Next, in Section 4, we present our panel data regressions, event study, and propensity score matched analysis. Finally, in Section 5, we summarize and conclude.

2 Hypothesis Development

Personality differences between conservatives and liberals manifest consistent characteristics throughout their lives, significantly affecting individual behaviors within each group (Carney, Jost, Gosling, and Potter, 2008). Recent work in finance show how characteristics and preferences associated with CEOs' political ideologies affect corporate decisions. For example, conservative and liberal leaning managers have different views about corporate social responsibility that affect their engagement in such activities (Hong and Kostovetsky (2012); Di Giuli and Kostovetsky (2014)). More relevant to this paper, CEOs in both political groups are associated with different attitudes toward risk, which is reflected in corporate behavior of conservative managers who generally follow conservative investment and leverage policies (Hutton et al. (2014); Elnahas and Kim (2017)). Differences in politically motivated views about taxes have influenced manager decisions on tax sheltering activities. Francis

et al. (2016) find that Republican CEOs' political ideologies drive greater tax sheltering, while Democratic CEOs engage in more tax sheltering only when economic incentives are high. Christensen et al. (2015) find that Republican managers are associated with less tax avoidance compared to liberal managers, which authors interpret as evidence of Republican managers avoiding the risky practice of tax avoidance. Apart from finance literature, an extensive literature in psychology shows liberals to be creative and open to risk, while conservatives are more orderly and risk averse. In terms of attitude towards taxes, prior work in political science literature indicates that Republicans favor smaller government and may view wealth redistribution through taxes less favorably than Democrats. ³

Based on above discussion, we hypothesize that CEOs' politically motivated and contrasting views about risk and taxes would affect how CEOs view the benefits and costs of debt, CEOs' leverage choices, and ultimately shareholders' value. As one of the primary benefits of optimal capital structure and leverage is tax reduction, and since Democrat and Republican managers have different views on taxes, we expect the managers to value the tax-benefit of debt differently. Similarly, higher than optimal levels of leverage increase the riskiness of firm's capital structure, as leverage increases financial distress costs and bankruptcy risk. Democrat and Republican contrasting attitude toward risk suggest that the managers would tolerate the increased risk associated with higher leverage differently. Overall, Republican managers risk-aversion indicates conservative corporate policies and thus less debt, while their tax-aversion suggests higher firm's debt to maximally exploit tax-advantages of debt. On the other hand, Democrats' risk-tolerance suggests riskier firm policies and higher debt, while their tax-tolerance indicates less debt to avoid taking advantage of tax-benefit of debt.

To separate CEOs' leverage choices driven by risk and tax consideration and to examine the implication of these choices on shareholder-value, we examine firms' adjustment speed toward the target leverage. Studying firm speed of adjustment allow us to exploit a unique

³Examples of work in psychology literature includes Adorno, Frenkel-Brenswik, Levinson, and Sanford (2019), Fromm (2013), Jost et al. (2003), McCrae (1996), Tomkins (1963), and Wilson (1973). Examples of work in political science literature includes Reed (2006) and Inclan et al. (2001).

capital structure framework that observes leverage choices when the firm is above or below its targets leverage. When the firm is under-levered, the speed of adjustment measures the impact of managerial attitude toward taxes, as there is little distress costs and bankruptcy risk. Thus, CEOs attitude toward taxes are not confounded with attitude toward risk. When a firm is over-levered, the speed of adjustment measures the impact of managerial attitude toward risk, as bankruptcy risk is greater while tax considerations are lower due to tax benefits consummation from higher leverage ratios.

	Under-levered <i>low bankruptcy risk, high tax benefit</i>	Over-levered <i>high bankruptcy risk, low tax benefit</i>
Republican	Risk-aversion: na Tax-aversion: faster SOA	Risk-aversion: faster SOA Tax-aversion: na
Democratic	Risk-tolerance: faster SOA Tax-tolerance: slower SOA	Risk-tolerance: slower SOA Tax-tolerance: faster SOA

The table above presents our predictions about target leverage speed of adjustment (SOA) on the basis of CEOs political ideology and position of leverage deviation. For Republican CEOs, we expect tax-aversion to dominate and results in faster adjustment speeds when thier firms are under-levered. When over-leveraged, Republican CEOs risk-aversion is expected to dominate and results in faster adjustment speeds. This suggests faster target adjustment speeds for firms managed by Republican CEOs regardless of the position of leverage deviation. For Democrat managers, attitudes toward risk and tax make conflicting predictions. If Democrat managers use less debt to avoid taking advantage of debt's tax-benefit, then adjustment speeds should be slower when thier firms are under-leveraged. When over-leveraged, risk and tax considerations also offer conflicting predictions.

This above discussion leads to the following testable hypotheses. First, Democrat/Republican CEOs different and strong views about risk and taxes should manifest itself in a firm's speed of adjustment to target leverage.

Hypothesis 1: *CEOs political ideologies are related to SOA.*

Second, we expect asymmetric behavior in SOA for firms with and without partisan CEOs.

Hypothesis 2a: *Democrats will have slower SOA when under(over)-leveraged, in line with ideological tax(risk)-tolerance.*

Hypothesis 2b: *Democrats will have faster SOA when under(over)-leveraged, in line with ideological risk(tax)-aversion.*

Hypothesis 2c: *Republicans will have faster SOA when over(under)-leveraged, in line with ideological risk(tax)-aversion.*

Lastly, firm response to a demand shock for debt should be heterogeneous depending on CEOs' views associated with political ideologies. The Tax Cut and Jobs Act (TCJA) was an exogenous legislative shock that reduced demand for debt by limiting corporate interest deductions and lowering the corporate tax rate from 35% to 21%. Treatment effects (i.e the effect of TCJA) should be heterogeneous depending on CEOs' views associated with political ideologies. The paper's unique setting allows us to look at tax considerations separately by examining firms' responses to the Act ⁴.

Hypothesis 3: *Tax Cut and Jobs Act (TCJA) affects SOA differently depending on firms' CEOs political ideologies.*

3 Data Methods and Empirical Design

The initial sample includes all firms in Execucomp and covers 2003 to 2018. Next, we follow the capital structure literature and exclude regulated industries such as financial (SIC 6000-6799) and utilities (SIC 4800-4999) ⁵. After the exclusions, we have 2,240 unique firms and

⁴The Homeland Investment Act of 2004 allowed for corporate cash repatriation at tax rates of 5.25%, incentivizing US firms to engage in corporate tax strategies by issuing corporate debt (De Simone, Piotroski, and Tomy, 2018). There is \$10.5 trillion of outstanding corporate debt in 2020, according to Bank of America Global Research.

⁵Firms in such industries have unique and different capital structures and their financing decisions may not convey the same information as non-financial and non-regulated firms. As an example, high leverage ratios

4,813 unique CEOs. The names of the executives in addition to the firm’s name and location serve as the mapping tools to the political contribution data.

3.1 CEO Data

We obtain political contributions data from the Federal Election Commission (FEC) website⁶. The FEC is an independent regulatory agency that since 1979 is providing information about contributor’s donation, name, occupation, employer, and address for contributions exceeding \$200. Individuals can make contributions directly to candidates or through the candidates’ party committees. Also, individuals can make contributions through their firms’ Political Action Committees (PACs)⁷. To better isolate executive’s political ideology, previous work takes into account only the individual direct contributions to candidates or candidates’ party committees (Cooper, Gulen, and Ovtchinnikov (2010), Hutton et al. (2014), Francis et al. (2016), Elnahas and Kim (2017)). The rationale is that contributions made through firm’s Political Action Committees would reflect the strategic political motives of the firm, but not necessarily the true political ideology of its executives.

Our selection criterion is outlined in Table 1. During the 2003 to 2018 period, there were eight Presidential, House and Senate election cycles that received over than 75 million individual contributions⁸. We start from the year 2003 due to the fact that occupation and employer fields in the FEC’s website became separately available and more populated from election cycle 2003–2004 forward, which helps in obtaining a more accurate match to CEOs appearing in Execucomp data. We start by searching the campaign finance data in the FEC website for individuals whose occupations has "CEO" as the title and get 1,116,000

are normal for financial firms, however, the same high leverage ratio for non-financial firms may indicate possible financial distress

⁶<https://www.fec.gov>

⁷A firm as an entity is not allowed to contribute directly towards candidates, but is allowed to do so through its political committees that it establishes. The firm cannot use its own cash to fund these committees, rather the executives make such funding.

⁸Each election cycle starts from an odd year, thus, 2003-2004, 2005-2006, 2007-2008 are each one election cycle.

observations ⁹. We then remove contributions made to PACs to get 564,052 observations, of which we matched 206,177 individual contributions to CEOs in Execucomp. Matching is done by mapping contributor’s last name and zip code to CEOs in Execucomp. The mapping uses Jaccard similarity to for textual matching. The Jaccard coefficient measures similarity between finite sample sets, and is defined as the size of the intersection divided by the size of the union of the sample sets.

Table 1. Selection Criterion. This table reports selection criterion used to generate the final sample used in the analysis.

	Observations
Individuals with "CEO" occupation in FEC website (2003-2018)	1,116,000
Less: contributions made through PACs	551,948
Personal contributions to candidates or candidates’ party committees	564,052
Less: CEOs not in Execucomp	357,875
Personal contributions from CEOs in Execucomp	206,177
Less: CEOs’ contributions in years not at office	176,816
CEOs’ tenure specific contributions	29,361
Annual aggregated CEOs’ contributions	4,725
Merged to Compustat to obtain financial information	25,172 firm-year
Final sample with necessary target leverage information	16,567 firm-year

The matched 206,177 contributions include those made during the CEO’s tenure at the firm and any other contributions made during 2003 to 2018. Since we are interested in examining the effect of CEO’s political ideology on firm’s capital structure, we focus only on contributions made during the CEO’s tenure to better capture the ideology while at office¹⁰. This rational leads to 29,361 contributions made by CEOs while at the job¹¹. Several CEOs make more than one donation in a given year, thus, we aggregate the donations to obtain the total contributions to each party made by each CEO per year. In total, we have 4,725 observations of annual aggregated direct contributions made by 1,516 unique CEOs at 1,226 unique firms. We merge those observations to the Execucomp initial sample then to

⁹This approach is similar to Francis et al. (2016), who identified 1,468 CEOs that made donations between 1992-2007.

¹⁰This also follows Elnahas and Kim (2017).

¹¹We also inspect the data manually to verify that the contribution was made during the CEO’s tenure.

Compustat to obtain financial information and have 25,172 firm-years observations. After applying the necessary filters to calculate target leverage, our final sample consist of 16,567 firm-year observation, including 1,431 firms and 3,097 CEOs.

3.1.1 Measures of Political Ideology. As mentioned in the data section, contributions are aggregated annually and attributed as Republican/Democratic contributions based on candidates and committees receiving the contributions. We measure CEO’s tenure-specific political ideology using measures similar to [Hong and Kostovetsky \(2012\)](#), [Hutton et al. \(2014\)](#), and [Elnahas and Kim \(2017\)](#). The first measure is Bipartisan REP, a binary variable which takes the value of 1 if the CEO made more contributions to Republican candidates or committees during his tenure, zero otherwise. DEM is defined analogously, that is it takes the value of 1 if the CEO made more contributions to Democratic candidates or committees during his tenure, zero otherwise . We also construct a second binary measure, Partisan REP (DEM), which equals 1 for CEOs who contributed *exclusively* to Republican (Democratic) candidates or committees during their tenure, zero otherwise. This measure is more restrictive than the previous two, which allow us to better isolate CEO’s ideology form opportunism. Overall, a CEO in our sample can fall into one of three groups: Republican, Democratic, or non-political ¹².

The above measures do not change during a given CEO’s tenure at the firm, which lowers the measurement error and better capture the political preference of the CEO while running the firm. Furthermore, past work indicates that party identification is relatively stable over time (see for example [Green, Palmquist, and Schickler \(2002\)](#)). We recognize that some CEOs might contribute to one candidate in a given year, in which the candidate has power, even though that candidate belongs to the party less-favoured by the CEO. However, we argue that these deviations from the main political preference will be minimized by observing the overall contributions made during that CEO’s tenure. In the following sub-sections, we

¹²The last group includes CEOs that contribute to parties other than Republican or Democratic, do not make political contributions at all, or choose to contribute in manners that are not recorded by the FEC.

perform tests to insure that the political ideology measures are actually picking up CEO’s political ideology.

3.1.2 Political Ideology and CEO Characteristics. Table 2 examines correlations between political ideology and CEO characteristics such as income, age, gender and ethnicity. Correlations between REP, DEM, and CEO characteristics provide insight into characteristics associated with CEO’s political ideology. Information about CEOs’ income¹³, age, gender is collected from Execucomp, and CEO’s ethnicity from ISS Director data. Based on prior research, we expect positive correlations between Republicans and male, older, and white individuals. We recognize that the majority of CEOs in the sample are white males, thus we our main focus is in the age variable. Results in Table 2 show evidence that CEOs with Republican ideologies are likely to be older, male, and Caucasians (.055,.031,.022, respectively, p-value<0.00).

Table 2. Correlation Matrix. This table shows correlations between political ideology and CEO characteristics.

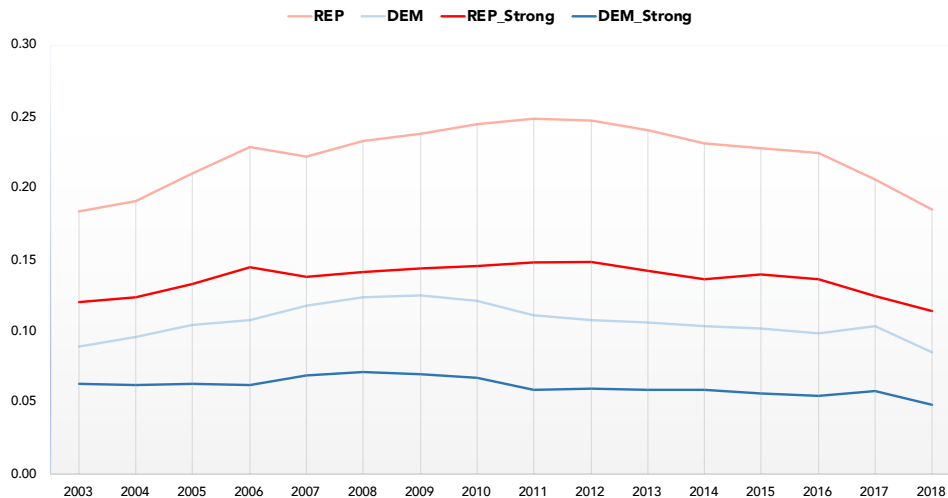
	Income	Age	Male	Caucasian
Republican	0.058	0.055	0.031	0.022
P-value	0.000	0.000	0.000	0.000
Democratic	0.056	-0.001	-0.016	-0.028
P-value	0.000	0.849	0.010	0.000

3.1.3 Consistency of Donation Patterns over Time. In Figure 1, we examine trends in the proportion of Republican and Democrat CEOs over time. We find that the proportions are consistent over time. If these proportions were unstable and dramatically fluctuated over time, this may be indicative of data errors such as incorrect political classifications of CEOs, flawed FEC contribution data, or firm observations that enter and exit the panel data at different years. Figure 1 shows the proportion of CEOs identified as Republicans is about 22% of firms in a given year, while the proportion of CEOs identified as Democrats is about 11%

¹³Proxied by Total Compensation, TDC1 in Execucomp.

of the firms in a given year. The overall conclusion from this figure is that the proportions are relatively stable over time, which gives us confidence in the measures of political ideology.

Figure 1. Proportion of Republican and Democrat CEOs Over Time. Political contribution data of CEOs from 2003-2018.



3.2 Main Empirical Model

Our empirical methods follow [Flannery and Rangan \(2006\)](#) and [Byoun \(2008\)](#) in estimating the target capital structure of a firm by performing the estimation in two steps: First, we estimate the target leverage ratio using firm characteristics. Second, we estimate a partial adjustment model ¹⁴ written as

$$\Delta D_{i,t} = \left[\frac{D}{A} \right]_{i,t}^* A_{i,t} - D_{i,t-1} \quad (1)$$

where $\Delta D_{i,t} = D_{i,t} - D_{i,t-1}$ is the *actual* change in total debt for firm i at time t . $\left[\frac{D}{A} \right]_{i,t}^*$ is the target debt-to-asset ratio, and the right hand side of Eq. 1 is the *required* change in

¹⁴The approach is also used by [Hovakimian, Opler, and Titman \(2001\)](#); [De Miguel and Pindado \(2001\)](#); [Fama and French \(2002\)](#); [Kayhan and Titman \(2007\)](#)

debt in order to adjust to the target leverage ratio. Equation 1 represents a special form of the target adjustment model where the adjustment speed is 100%. $\Delta D_{i,t}$ is estimated using total debt (COMPUSTAT Item 34 + COMPUSTAT Item 142) and $A_{i,t}$ total assets (COMPUSTAT Item 6).

Estimating the target debt ratio requires a yearly cross sectional regression using a set of firm characteristics $\theta_{i,t}$ that are used in [Titman and Wessels \(1988\)](#); [Rajan and Zingales \(1995\)](#); [Hovakimian et al. \(2001\)](#); [Hovakimian \(2006\)](#); [Fama and French \(2002\)](#); [Flannery and Rangan \(2006\)](#); [Kayhan and Titman \(2007\)](#); [Byoun \(2008\)](#). These firm characteristics $\theta_{i,t}$ include corporate tax rates before and after TCJA, operating income, market-to-book ratio, log of assets, depreciation and amortization scaled by total assets, fixed assets scaled by total assets, research and development expenditures scaled by net sales, a dummy variable for firms that are missing research and development expenditures, common stock dividends scaled by total assets, industry median debt ratio, and Altman’s Z-score modified by [MacKie-Mason \(1990\)](#). Yearly cross-sectional regressions use these firm and industry characteristics to proxy for the costs and benefits of operating with different capital structures, as outlined in the following equation:

$$\left[\frac{D^*}{A_{i,t}} \right] = \beta \theta_{i,t} + \varepsilon_{i,t} \quad (2)$$

Using the estimated coefficients from yearly cross-sectional regressions, we obtain the estimated target leverage $\left[\frac{D^*}{A_{i,t}} \right]$ from the fitted values for each firm and year.

To test the hypothesis that the speed of leverage adjustment differs for firms with politically partisan CEOs, we require partial adjustment speeds to vary asymmetrically between under-leveraged and over-leveraged firms. First, we divide both sides of Eq. 1 by $A_{i,t}$ and use a dummy variable for under-leveraged and over-leveraged firms to estimate the following

empirical model:

$$\begin{aligned}
\frac{\Delta D_{i,t}}{A_{i,t}} &= \alpha_s + \alpha_t + \beta_1 \text{Target Deviation}_{i,t} \\
&+ \beta_2 (\text{Target Deviation}_{i,t} \times D_{i,t}^{\text{below}} \times DEM_{i,\gamma,t}) \\
&+ \beta_3 (\text{Target Deviation}_{i,t} \times D_{i,t}^{\text{above}} \times DEM_{i,\gamma,t}) \\
&+ \beta_4 (\text{Target Deviation}_{i,t} \times D_{i,t}^{\text{below}} \times REP_{i,\gamma,t}) \\
&+ \beta_5 (\text{Target Deviation}_{i,t} \times D_{i,t}^{\text{above}} \times REP_{i,\gamma,t}) + \Theta' \mathbf{X}_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{3}$$

where $\frac{\Delta D_{it}}{A_{it}}$ is the change in total debt divided by book value of assets, α_s is industry fixed effects using 3 digit SIC codes and α_t is time fixed effects. $\text{Target Deviation}_{i,t} = \left[\frac{D}{A} \right]_{i,t}^* - \frac{D_{i,t-1}}{A_{i,t}}$, $D_{i,t}^{\text{below}}$ is a dummy variable equal to 1 if leverage is below the target, which means adjustment means to increase debt to move towards the target. $D_{i,t}^{\text{above}}$ is a dummy variable equal to 1 if leverage is above the target, which means adjustment means to reduce debt to move towards the target. $REP(DEM)$ is a dummy variable with a value of 1 if firm i 's CEO at time t made political contributions to the $REP(DEM)$ (Democrat or Republican) party, zero otherwise. γ represents a dummy where Bipartisan means more than 50%, but less than 100% of contributions went to party p , and Partisan means 100% of contributions went to party p . $\mathbf{X}_{i,t}$ is a vector control variable that includes characteristics such as CEO age, CEO tenure, and CEO duality. We cluster standard errors at the firm level. The coefficient $\beta_{2,3,4,5}$ will be significant if CEO political ideology is related to speed of leverage adjustment. We hypothesize that liberal (conservative) CEOs will have more liberal (conservative) financing policies than their conservative (liberal) counterparts, and $\beta_{2(5)}$ will be negative (positive) and significant. This means under-leveraged (over-leveraged) firms with Democrat (Republican) CEO will have a slower (faster) speed of adjustment to the target leverage ratio than non-political firms.

3.3 Heterogeneous Treatment Effects of Event Study

We follow a large prior literature and formalize the estimation of heterogeneous effects across firms based on CEO political ideology by using the conditional average treatment effect (CATE) from [Grimmer, Messing, and Westwood \(2017\)](#); [Wager and Athey \(2018\)](#). We define CEO political ideology J ($j = 1, 2, \dots, J$) for each company i as $\mathbf{X}_i = (X_{i1}, X_{i2}, \dots, X_{iJ})$ in set χ . The exogenous legislation, the Tax Cut and Jobs Act (defined in [Section 4.3](#)) is treatment T as treatment indicator $T \in [0, 1]$ and a response $Y_i \in \mathbb{R}$. We then define CATE for $\mathbf{x} \in \chi$ and treatment indicator T as $\phi(\mathbf{T}, \mathbf{x})$,

$$\phi(\mathbf{T}, \mathbf{x}) = E[Y(\mathbf{T}) - Y(o)|\mathbf{X} = x]. \quad (4)$$

The treatment effect of T is heterogeneous if the value of [Equation 4](#) is different for CEOs of different political ideology J . We derive the empirical model in [Section 4.3](#).

3.4 Summary Statistics

In [Table 3](#), we present the summary statistics for the variables used in our empirical analyses. We report means and medians for the main independent variables for the full sample, as well as means and medians for the subsamples of firms with non-political, Republican, or Democratic CEOs. In the full sample, on average about 22% of the firm-year observations belong to firms run by Bipartisan Republican CEOs, while 10.5% of the firm-year observations are for firms managed by Bipartisan Democratic CEOs. REP Partisan and DEM Partisan are more restrictive measures of political ideology, which is shown by their full sample means of 13.5% and 6.1%, respectively. [Table 3](#) also shows means and medians of the CEO characteristics and variables used in the regressions to estimate target leverage ratios and the speed of adjustment following [Byoun \(2008\)](#). With respect to CEO characteristics, the table shows that firms with Republican or Democratic CEOs have significantly higher mean values for CEO ownership, age, total compensation, tenure, and duality.

Table 3. Summary Statistics of Firm Characteristics by CEO Political Ideology

This table provides summary statistics by CEO political ideology. All variables that are scaled by total assets are winsorized at 1st and 99th percentile., ** and *** denote significance at a 0.10, a 0.05 and a 0.01 levels, respectively.

Full Sample												
	N	Mean	Med									
REP Bipartisan	16,567	0.221	0									
DEM Bipartisan	16,567	0.106	0									
REP Partisan	16,567	0.136	0									
DEM Partisan	16,567	0.061	0									
	Non-Political(NP)			Republican (REP)			Democratic(DEM)			REP-NP	DEM-NP	REP-DEM
	N	Mean	Med	N	Mean	Med	N	Mean	Med	Mean difference		
CEO:												
Own %	9,007	2.06	0.38	3,001	2.58	0.55	1,474	4.57	0.83	0.516***	2.509***	-1.993***
Age	10,948	56	56	3,642	57	57	1,742	57	56	1.057***	0.642***	0.415*
Comp	11,116	5,291	3,513	3,649	6,485	4,594	1,742	6,082	4,178	1193***	791***	402.389**
Tenure	10,652	5.64	5.00	3,544	7.41	6.00	1,709	6.81	6.00	1.765***	1.164***	0.601***
Duality	11,152	0.49	0.00	3,661	0.67	1.00	1,754	0.66	1.00	0.185***	0.168***	0.02
Firm:												
TD	11,132	0.191	0.181	3,655	0.213	0.208	1,751	0.195	0.169	0.022***	0.004	0.018***
LD	11,072	0.180	0.169	3,637	0.201	0.195	1,741	0.184	0.157	0.021***	0.003	0.017***
Tax	11,152	0.337	0.35	3,661	0.34	0.35	1,754	0.341	0.35	0.004***	0.004***	-0.001
Op Inc	11,152	0.126	0.125	3,661	0.152	0.146	1,754	0.136	0.129	0.026***	0.010***	0.016***
M-to-B	11,132	1.617	1.312	3,655	1.673	1.348	1,751	1.787	1.398	0.056***	0.170***	-0.113***
Market Cap	11,152	8,257	1,598	3,661	13,575	2,898	1,754	15,381	2,143	5,317***	7,123***	-1,800
Assets	11,152	7,045	1,471	3,661	10,622	2,387	1,754	8,929	1,887	3,576***	1,884**	1,692**
Cash	11,033	0.125	0.091	3,627	0.096	0.068	1,737	0.132	0.101	-0.029***	0.007**	-0.036***
DEP	11,152	0.041	0.036	3,661	0.044	0.039	1,754	0.036	0.033	0.003***	-0.005***	0.008***
FA	11,152	0.234	0.165	3,661	0.302	0.227	1,754	0.226	0.167	0.068***	-0.008	0.076***
D_R&D	11,152	0.300	0	3,661	0.408	0	1,754	0.324	0	0.107***	0.024**	0.084***
R&D	11,152	0.055	0.01	3,661	0.029	0	1,754	0.062	0.003	-0.025***	0.008**	-0.033***
Div / At	11,152	0.014	0.002	3,661	0.018	0.009	1,754	0.013	0	0.004***	-0.001	0.005***
Z-Score	10,923	4.642	4.296	3,557	4.662	4.097	1,701	4.511	4.213	0.021	-0.131	0.151

Table 3 shows that the debt ratio (TD) for non-political firms have a mean (median) value of 0.191 (0.181) and long term debt ratio (LD) has a mean (median) of 0.180 (0.169). Republican CEO firms have a mean (median) debt ratio of 0.213 (0.208) and Democratic CEO firms have a mean (median) debt ratio of 0.195 (0.169)¹⁵. *Tax* represent the marginal tax rate, the statutory tax rate for profitable firms with no net operating loss carryforward, and zero otherwise. For the three subsamples, we find a mean (median) tax rate of 33.8% (35%). *Operating income* is divided by total assets. Republican managers have higher mean and median operating income than firms with Democratic managers, while both have significantly higher operating income non-political firms.

These statistics are consistent with Hutton et al. (2014) findings that the cautious policies of Republican managers may make their firms more profitable¹⁶. *M-to-B* is the market-to-book ratio of assets, where market value of assets equals total assets minus total equity minus balance sheet deferred taxes and investment tax credit plus the market value of common equity plus preferred stock liquidating value¹⁷. M-to-B is used to control for firms' future growth options, where firms' with high M-to-B generally are considered to have more attractive growth opportunities that the firms may protect by limiting the leverage they undertake. Table 3 shows that Democratic firms have higher mean and median M-to-B than Republican firms, and both groups of firm have higher M-to-B values compared to firms in the the non-political group. These statics could imply that Democratic CEOs are more concentrated in firms that have high growth rates such as firms in Tech and Pharmaceutical industries. Market capitalization is calculated by total asset minus total equity minus deferred taxes plus market value of equity. Both mean and median values of market capitalization and total assets paint a similar picture; Republican firms are larger than Democratic

¹⁵The mean and median differences are both significant at the 1% levels. While these statistics are somewhat not consistent with Hutton et al. (2014), who find that firms with Republican mangers have lower levels of corporate debts. when we restrict the sample to years 2003 to 2008 (the end year of Hutton et al. (2014) sample), difference in debt ratio between Republican and Democratic firms are not statistically significant.

¹⁶They define profitability based on Return on assets (ROA).

¹⁷Replaced by the redemption value of preferred stock when missing.

firms, and both types are larger than non-political firms. Table 3 also shows that Republican CEOs holds less cash than Democratic CEOs.

For R&D, defined as research and development divided by net sales, the non-political sample mean (median) is 0.055 (0.01), while Republican firms have a mean (median) R&D of 0.029 (0) and Democratic firms have a mean (median) R&D of 0.062 (0.003)¹⁸. The statistics for R&D complement those of M-to-B, as Democratic firms spend more in R&D and have higher growth opportunities. The mean (median) values of D_R&D, a dummy variable that equals one for firms with missing R&D zero otherwise, for the three sub-samples draw similar picture as those drawn from R&D. Lastly, we include the Altman’s Z-score modified by Mackie-Masom (1990)¹⁹ in the target estimation regressions to measures the ex ante probability of distress (Graham (1996, 2000)). The modified Altman Z-scores have similar mean and median values for all three subsamples.

4 Empirical Analysis

4.1 Agency Costs of Political Ideology: Hypothesis 1

In Section 2, Hypothesis 1 conjectures that CEOs’ political ideologies matter for firms’ speed of adjustment to target leverage. Table 4 tests this hypothesis by estimating Equation 5. Baseline specification in column (1) shows a positive and significant coefficients on *TargetDeviation*, implying that the average firm in our sample takes 4 years to adjust to target leverage. From column (2), the coefficient estimate on the interaction with $TargetDeviation \times Partisan$ is negative and significant at the 5% level, lending initial support to Hypothesis 1. The coefficient of -.038 implies that firms with CEOs who contribute to political causes are 15% slower to adjustment to target leverage compared to firms with

¹⁸These figures are consistent with Chang and Song (2014), who show that firms with high R&D investment have lower leverage.

¹⁹Calculated as $(3.3 * EBIT + sales + 1.4 * retained\ earnings + 1.2 * working\ capital) / total\ assets$.

non-political CEOs.

Table 4. CEO Ideology and Target Leverage Adjustment.

The dependent variable is change in total debt scaled by book value of assets and follows Equation 5. Similar to Byoun (2008) and Flannery and Rangan (2006), target leverage is estimated by the predicted value from a yearly cross-sectional regressions outlined in Equation 2. Target Deviation represents the deviation of total debt to book assets ratio from its target. Partisan is 1 if the CEO made political contributions, 0 otherwise. Bipartisan REP (DEM) is if the CEO made more than 50% but less than 100% of contributions to Republican (Democratic) candidate or committees. Partisan REP (Partisan DEM) is if the CEO contributed exclusively to Republican (Democratic) candidates or committees. Controls include CEO's age, tenure, and duality. Specifications include year and industry fixed effects and standard errors are clustered at the firm level. *, ** and *** denote significance at a 0.10, a 0.05 and a 0.01 levels, respectively. Standard errors are in parentheses.

	Δ Total Debt/Total Assets						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Target Deviation	.25*** (.011)	.254*** (.012)	.251*** (.012)	.248*** (.012)	.259*** (.013)	.256*** (.013)	.259*** (.014)
Target Deviation <i>Partisan</i>		-.038** (.017)					
Target Deviation <i>Bi-REP</i>			-.015 (.026)	-.021 (.028)			-.031 (.029)
Target Deviation <i>Bi-DEM</i>			.008 (.026)	.014 (.028)			.004 (.029)
Target Deviation <i>PartisanREP</i>					-.034 (.022)	-.03 (.022)	-.033 (.023)
Target Deviation <i>PartisanDEM</i>					-.078*** (.03)	-.079*** (.031)	-.082*** (.031)
Observations	16,537	16,537	16,537	15,642	16,537	15,642	15,642
R ²	.171	.172	.171	.166	.172	.167	.167
Controls				✓		✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓
Firm Cluster	✓	✓	✓	✓	✓	✓	✓

Further results in Table 4 show that the slower speed of leverage adjustment exist for firms managed by Democrat CEOs, but not in firms with Republican CEOs. While column

(3) and (4) does not show significant coefficients for $TargetDeviation \times BipartisanREP$ and $TargetDeviation \times BipartisanDEM$, column (5), (6), and (7) shows negative and significant coefficients for $TargetDeviation \times PartisanDEM$, indicating slower speed of adjustment for firms with partisan Democrat CEOs compared to firms with non-political CEOs. In (7), the coefficient estimates on $TargetDeviation$ and $TargetDeviation \times PartisanDEM$ are 0.259 and -0.082 respectively. These estimates suggest that non-political firms take 3.9 years to adjust to target leverage, while partisan Democrat CEO firms take about 1.7 years longer to adjust to target leverage ratios. Specifically, compared to an average firm in the sample, a firm run by a partisan Democrat CEO has a speed of adjustment that is 32% slower²⁰. These results hold after controlling for CEO's characteristics that include age, tenure, and duality.

Overall, the results from table 4 show that CEO's political ideology does matter for the speed of adjustment to target leverage. Moreover, only partisan Democrat CEOs seem to adjust slower to target leverage compared to non-political CEOs. These results show that Democrat CEOs' political ideologies may represent an agency cost that increase their firms' costs of leverage adjustment. However, it is unclear whether Democrats are slower to adjust due to their higher tolerance of risk or higher tolerance of taxes. In the next section, we examine these two characteristics separately.

4.2 Separation of Attitude towards Taxes and Risk: Hypothesis 2

We incorporate a unique setting to separate CEOs' leverage choices driven by risk and tax associated with their political ideologies. Firms with above target debt ratios have higher bankruptcy risk and lower tax-benefits of debt compared to firms that are below target debt ratios. While over-leveraged firms are concerned that increasing debt will increase bankruptcy risk, under-leveraged firms are more focused on debt-tax shields and less focused on bankruptcy risk. When a firm is above its target leverage, bankruptcy and fi-

²⁰We calculate the adjustment speed of 32% from $(.081/.259)$ from Table 4 Column (7).

nancial distress costs makes it crucial to revert back to optimal targets. On the other hand, below-target firms should adjust upwards to take advantage of tax-benefits of debt that enhance shareholder value. If Hypothesis 2 in Section 2 is correct, then adjustment speeds for Democrat and Republican CEOs should be asymmetric depending on position relative to the target leverage ratios.

The unique capital structure setting requires construction of dummy variables *Above* (*Below*), which equal 1 if the firm’s leverage is above (below) the predicted target leverage, 0 otherwise. Thus, *Above* (*Below*) indicate firms that are over-leveraged (under-leveraged), respectively. We interact the two dummy variables with the interaction terms as in Eq. 5. We first test *Bipartisan DEM* and *Bipartisan REP* in Table 5 for *Above* (*Below*) firms. Across columns (1), (2), (3), and (4), different specifications show that there is no significant difference for bipartisan CEOs from non-political CEOs when it comes to target adjustment speed. In column (1), the coefficient for bipartisan CEOs that are above target leverage is -0.041*, however this significance disappears once we add controls in column (2), and this significance does not survive when bipartisan CEOs are divided into *Bipartisan DEM* and *Bipartisan REP* coefficients in column (3) and (4).

In Table 6, we replicate the same specifications in Table 5 except we use *Partisan DEM* and *Partisan REP*. Coefficients for $Target\ Deviation_{Partisan}^{Below}$ in Columns (1) and (2) are negative and significant, indicating that under-leveraged firms with partisan CEOs have slower adjustment speeds than non-partisan CEOs. These results hold after controlling for CEO’s age, tenure, and duality. Specifications in (3) and (4) show that these slower adjustment speeds are coming from partisan Democrat CEOs, whose adjustment speeds are 42% slower than non-partisan CEOs ²¹. Put differently, while firms with non-partisan CEOs take 3.9 years to revert leverage ratios back to target, under-leveraged firms with partisan or strong Democrat CEOs take 2.8 years longer to revert. It is worth noting that the results from Tables 4 and 6 do not lend total support to Hypothesis 2.c, as the political ideologies for

²¹Calculated as $(.107/.256=.42)$.

Table 5. Bipartisan (Weak) CEO Ideology and Speed of Target Leverage Adjustment.

The dependent variable is change in total debt scaled by book value of assets and follows Equation 5. Similar to Byoun (2008) and Flannery and Rangan (2006), target leverage is estimated by the predicted value from a yearly cross-sectional regressions outlined in Equation 2. Target Deviation represents the deviation of total debt to book assets ratio from its target. Above (Below) is 1 if the firm is above (below) its target leverage ratio, 0 otherwise. Bipartisan REP (DEM) is if the CEO made more than 50% but less than 100% of contributions to Republican (Democratic) candidate or committees. Controls include CEO's age, tenure, and duality. Specifications include year and industry fixed effects and standard errors are clustered at the firm level. *, ** and *** denote significance at a 0.10, a 0.05 and a 0.01 levels, respectively. Standard errors are in parentheses.

	Δ Total Debt/Total Assets			
	(1)	(2)	(3)	(4)
Target Deviation	.254*** (.012)	.251*** (.012)	.251*** (.012)	.248*** (.012)
Target Deviation ^{Above} _{Bipartisan}	-.041* (.024)	-.029 (.025)		
Target Deviation ^{Below} _{Bipartisan}	-.034 (.024)	-.026 (.024)		
Target Deviation ^{Above} _{Bi-REP}			-.025 (.033)	-.017 (.035)
Target Deviation ^{Below} _{Bi-REP}			-.002 (.04)	-.026 (.042)
Target Deviation ^{Above} _{Bi-DEM}			.017 (.036)	.035 (.039)
Target Deviation ^{Below} _{Bi-DEM}			-.006 (.04)	-.016 (.04)
Observations	16,537	15,642	16,537	15,642
R ²	.172	.166	.171	.166
Controls		✓		✓
Industry FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Firm Cluster	✓	✓	✓	✓

Table 6. Partisan (Strong) CEO Ideology and Speed of Target Leverage Adjustment.

The dependent variable is change in total debt scaled by book value of assets and follows Equation 5. Similar to Byoun (2008) and Flannery and Rangan (2006), target leverage is estimated by the predicted value from a yearly cross-sectional regressions outlined in Equation 2. Target Deviation represents the deviation of total debt to book assets ratio from its target. Above (Below) is 1 if the firm is above (below) its target leverage ratio, 0 otherwise. Partisan REP (Partisan DEM) is if the CEO contributed exclusively to Republican (Democratic) candidates or committees. Controls include CEO's age, tenure, and duality. Prob > F is the p-value for the test of equality of interaction term coefficients. Specifications include year and industry fixed effects and standard errors are clustered at the firm level. *, ** and *** denote significance at a 0.10, a 0.05 and a 0.01 levels, respectively. Standard errors are in parentheses.

	Δ Total Debt/Total Assets			
	(1)	(2)	(3)	(4)
Target Deviation	.259*** (.013)	.256*** (.013)	.259*** (.013)	.256*** (.013)
Target Deviation ^{Above} _{Partisan}	-.049* (.028)	-.039 (.029)		
Target Deviation ^{Below} _{Partisan}	-.05** (.022)	-.057** (.022)		
Target Deviation ^{Above} _{PartisanREP}			-.039 (.034)	-.024 (.034)
Target Deviation ^{Below} _{PartisanREP}			-.03 (.026)	-.036 (.026)
Target Deviation ^{Above} _{PartisanDEM}			-.065 (.044)	-.061 (.045)
Target Deviation ^{Below} _{PartisanDEM}			-.097*** (.035)	-.107*** (.033)
Observations	16,537	15,642	16,537	15,642
R ²	.172	.167	.172	.167
Prob >F, above			0.631	0.493
Prob >F, below			0.093	0.059
Controls		✓		✓
Industry FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Firm Cluster	✓	✓	✓	✓

Republicans managers does not seem to be related to their firms' adjustment speeds toward targets.

Overall, under-leveraged firms are less likely to experience bankruptcy risk or costs of financial distress, thus, Democrat CEOs' slower speed of adjustment is likely related to their tax-tolerance and desire to avoid taking advantage of tax-benefit of debt. This conclusion is somewhat consistent with the conclusions of [Francis et al. \(2016\)](#). The above documented 2.8 additional years of target adjustment represents an agency costs to the shareholder of under-leveraged firms with partisan Democrat CEOs, as these firms are missing out on tax-benefits of debt.

4.3 Heterogeneous Treatment Effects of TCJA: Hypothesis 3

The Tax Cut and Jobs Act (TCJA) passed in 2017, reducing demand for debt by limiting corporate interest deductions and lowering the corporate tax rate from 35% to 21%. This exogenous legislation provided a shock that reduced demand for corporate debt across the board. However, conditional average treatment effects (CATE) should vary on characteristics as debt averse CEOs may reduce debt more than other CEOs. To test Hypothesis 3, we define the empirical model based on the methodology described in Section 3.3. If partisan Democrat CEOs are avoiding taking advantage of tax-benefit of debt, then their firms' speed of target leverage adjustment should be slower than other firms. The empirical model for Table 7 is:

$$\begin{aligned}
\frac{\Delta D_{i,t}}{A_{i,t}} &= \alpha_s + \alpha_t + \gamma_1 TD_{i,t} + \gamma_2 [TD_{i,t}^{Above}] \times TCJA_t + \gamma_3 [TD_{i,t}^{Below}] \times TCJA_t \\
&+ \gamma_4 [TD_{PartisanDEM}^{below}]_{i,t} \times TCJA_t + \gamma_5 [TD_{PartisanREP}^{below}]_{i,t} \times TCJA_t \\
&+ \gamma_6 [TD_{PartisanDEM}^{above}]_{i,t} \times TCJA_t + \gamma_7 [TD_{PartisanREP}^{above}]_{i,t} \times TCJA_t + \Theta' \mathbf{X}_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{5}$$

TCJA is a dummy variable that is 1 for 2017 and beyond, 0 otherwise. We expect γ_2 and γ_3 to be negative as the TCJA should reduce demand for debt across the board. Table 7 column 1 shows this to be the case only for under-levered firms, as $\gamma_2 = -0.117$ and significant. This coefficient indicates that under-levered firm increased the time to adjust to target from 4 years before TCJA to about 7.7 years after TCJA ($\frac{1}{.2466 - .117} = 7.7$).

If there was heterogeneous response to the treatment (the act), then γ_4 should be negative and significant, while $\gamma_5, \gamma_6, \gamma_7$ should not differ. Column 2, 3, and 4 in Table 7 supports this as γ_4 , the coefficient on $[Target\ Deviation_{PartisanDEM}^{below}] \times TCJA$ has negative and significant values of -0.129, -0.132, and -0.117 respectively. Column 3 and 4 suggests that under-leveraged firms with partisan Democrat CEOs completely stopped adjusting towards the target leverage ratio after the act ²², while CEOs in other under-leveraged firms have target adjustment speeds of 6.8 and 5.9 years, respectively. The differences in treatment effects suggest that political ideology for Democrat CEOs manifest itself as heterogeneous agency costs during exogenous shocks. These result hold after controlling for CEO incentives and board monitoring as in column 4.

These results provide further evidence that partisan Democrat CEOs are slower to revert to optimal target leverage due to their tax tolerance (i.e. debt aversion), consistent with the conclusions of Francis et al. (2016) that Democrat managers are less aggressive with tax sheltering strategies than Republican managers. Overall, heterogeneous treatment effects from TCJA suggest that agency costs of CEO political ideology are inherent for Under-leveraged firms with partisan Democrat CEOs.

²²Using the coefficients in Table 7 Column 3 and 4, ($\frac{1}{.2492 - .103 - .1011 - .1323} = 0$ years, $\frac{1}{.2492 - .0965 - .095 - .117} = 0$ years)

Table 7. Heterogeneous Treatment of Tax Cut and Jobs Act

The dependent variable is the change in total debt scaled by book value of assets. Similar to [Byoun \(2008\)](#) and [Flannery and Rangan \(2006\)](#), target leverage is estimated by the predicted value from a yearly cross-sectional regressions. Target Deviation represents the deviation of the total debt to book assets ratio from target leverage. Partisan DEM equals 1 if the CEO contributed exclusively to Democratic candidates or committees, 0 otherwise. Below is 1 if the firm is below its target leverage ratio, 0 otherwise. TCJA equals one for all years that are equal or greater than 2017, 0 otherwise. Controls are CEO age, CEO tenure, and CEO duality. Board monitoring is the percentage board's directors that are classified as independent. CEO Incentives are CEO's debt-to-equity compensation and equity delta. Specifications include year and industry fixed effects and standard errors are clustered at the firm level. *, ** and *** denote significance at a 0.10, a 0.05 and a 0.01 levels, respectively. Standard errors are in parentheses.

	Δ Total Debt/Total Assets			
	(1)	(2)	(3)	(4)
Target Deviation	.2466*** (.0128)	.2492*** (.0129)	.2492*** (.0129)	.264*** (.0175)
Target Deviation ^{Above} \times TCJA	.0046 (.0321)	.0034 (.0321)	.0067 (.0337)	-.0096 (.0352)
Target Deviation ^{Below} \times TCJA	-.1172*** (.0368)	-.1061*** (.0376)	-.103*** (.0392)	-.0965** (.0428)
Target Deviation ^{Below} _{PartisanDEM}		-.1009*** (.0367)	-.1011*** (.0367)	-.095* (.0509)
Target Deviation ^{Below} _{PartisanDEM} \times TCJA		-.1292** (.0574)	-.1323** (.0585)	-.117* (.0683)
Target Deviation ^{Below} _{PartisanREP} \times TCJA			-.0246 (.0581)	.0262 (.0636)
Target Deviation ^{Above} _{PartisanREP} \times TCJA			-.0573 (.0604)	.021 (.0686)
Target Deviation ^{Above} _{PartisanDEM} \times TCJA			.0743 (.156)	.2355 (.1499)
Observations	13,154	13,154	13,154	9,970
R ²	.146	.147	.146	.16
Controls	✓	✓	✓	✓
Board Monitoring	✓	✓	✓	✓
CEO Incentives				✓
Industry FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Firm Cluster	✓	✓	✓	✓

4.4 Additional Tests

4.4.1 The Role of CEO Incentives and Board Monitoring.

The evidence in previous sections shows that firms managed by Democrat CEOs have slower speeds of adjustment to optimal leverage levels only when under-leveraged, implying an agency cost to shareholders of these firms in the form of missed add-value from tax benefits of debt. To further lend support to the agency cost interpretation, we investigate the possibility that CEO compensation structure or poor board monitoring may be responsible for the slower speeds of adjustment for under-leveraged firms with Democrat CEOs.

We measure compensation incentives with CEO's *Inside Debt* and *Equity Delta*. The former is the CEO's personal debt-equity ratio and is based on total debt-like compensation divided by equity compensation computed following [Sundaram and Yermack \(2007\)](#) and [Daniel, Li, and Naveen \(2019\)](#), while the latter is the CEO's equity pay sensitivity to the firm stock price. We proxy for the effectiveness of board monitoring by the percentage of board members classified as independent according to BoardEx.

Table 8 shows positive and significant coefficients on CEO compensation and board monitoring measurements across columns (1)-(4). This indicates that CEO compensation aligns the interests of the CEO with long-term shareholders by increasing the speed of target adjustment for firms. Looking across columns (1)-(4), the coefficient on $Target\ Deviation_{PartisanDEM}^{Below}$ is negative and significant except for column (2). This suggests that Equity Delta may be the most effective tool to reduce the agency costs of partisanship to insignificant levels. Coefficients for the baseline speed of adjustment in column (4) is 0.245, in line with the estimates from Table 4 and 6. After accounting for CEO incentives and board monitoring, results indicate that non-partisan firms take 4.1 ($1/.245$) years to revert back to their target leverage ratio, while under-leveraged firms with partisan Democrat CEOs take 6.6 ($1/((.245-.094))$) years, or 2.5 years longer.

Table 8. The dependent variable is the change in total debt scaled by book value of assets. Similar to [Byoun \(2008\)](#) and [Flannery and Rangan \(2006\)](#), target leverage is estimated by the predicted value from a yearly cross-sectional regressions. Partisan REP (Partisan DEM) equals 1 if the CEO contributed exclusively to Republican(Democratic) candidates or committees, 0 otherwise. Above (Below) equals 1 if the firm is above (below) its target leverage ratio, zero otherwise. CEO Inside Debt is the CEO’s personal debt-equity ratio and is based on total debt-like compensation divided by equity compensation computed following [Sundaram and Yermack \(2007\)](#) and [Daniel et al. \(2019\)](#). Equity Delta is the CEO’s equity pay sensitivity to the firm stock price. Governance interactions are interactions of $TD_{StrongDEM}^{Below} \times [CEOInsideDebt, EquityDelta, IndDir\%]$ for each listed main governance effect. Additional Controls are CEO age, tenure, and duality. Specifications include year and industry fixed effects and standard errors are clustered at the firm level. *, ** and ***denote significance at a 0.10, a 0.05 and a 0.01 levels, respectively. Standard errors are in parentheses.

	Δ Total Debt/Total Assets			
	(1)	(2)	(3)	(4)
TD	.255*** (.014)	.249*** (.014)	.252*** (.014)	.245*** (.014)
$TD_{PartisanDEM}^{Below}$	-.092*** (.038)	.0004 (.132)	-.119*** (.036)	-.094* (.049)
CEO Inside Debt	.005* (.014)			.005** (.002)
Equity Delta		.004*** (.0007)		.005*** (.001)
Independent Directors %			.015** (.008)	.014* (.008)
Observations	12,085	11,602	13,154	9,938
R ²	.17	.172	.161	.174
Governance Interactions	✓	✓	✓	
Additional Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓
Firm Cluster	✓	✓	✓	✓

4.4.2 Propensity Score Matching.

In this section, we conduct propensity score matching analysis to reduce the bias in our results from potential confounding variables associated with political ideology of CEOs. Concerns may arise that young, Democrat CEOs are disproportionately hired at tech-startups which rely more on equity financing than debt financing. Propensity score matching technique can alleviate those concerns. We create matched sub-samples for the three possible combinations of CEO political ideology (non-political v.s Republican, non-political v.s Democrat, and Republican v.s Democrat). Specifically, we run a conditional logistic specification to estimate the likelihood of CEO ideology being one type but not the other (i.e. Republican and not Democrat for example). We base our matching on 3 digit SIC codes, total assets, debt, market-to-book, operating income, CEO age, CEO tenure, duality, and fiscal year. After obtaining the propensity scores, we perform a one-to-one match using estimated propensity scores, without replacement, and with .5% caliber.

Table 9 show the summary statistics for matched samples of non-political, Republican, and Democrat CEO groups. All mean differences are not significant, indicating that we are matching groups with similar characteristics. Results from Table 10 indicate similar results as previous empirical tests. Column (1) and (2) indicate that Republican CEOs do not significantly differ in target adjustment speed compared to non-political CEOs. (3) and (4) indicates that slower adjustment speeds in Democrat CEOs are present in partisan Democrat CEOs but not bipartisan Democrat CEOs. A coefficient of -0.083 for $TargetDeviation_{StrongDEM}$ indicates that firms with partisan Democrat CEOs take 33% (0.083/0.255) longer to revert back to target leverage compared to non-partisan CEOs, in line with results from Table 4, 6, 7 and 8. Results in Column (6) also indicate that partisan Democrat CEOs are 42% (0.112/0.268) slower than partisan Republican CEOs at reverting to target leverage ratios. Overall, results confirm the findings in previous sections.

Table 9. Summary Statistics of Propensity Score Matched Sample. Summary statistics show the means and mean differences and its associated significance for the observable characteristics used to match Non-Political (NP), Republican (REP), and Democratic (DEM) groups. PSM samples are matched based on log (assets), total debt, market-to-book, operating income, CEO age, tenure, duality, fiscal year, and 3-digit SIC industry classification. We match REP with NP, DEM with NP, and DEM with REP and estimate Eq. 5 on each of the three matched subsamples.

	NP		REP		
Variables	N	Mean	N	Mean	Diff
Log(Asset)	3,440	7.92	3,440	7.91	0.01
Total Debt	3,440	2,400.57	3,440	2,367.69	32.88
MTB	3,440	1.64	3,440	1.67	-0.03
Op. Inc.	3,440	0.15	3,440	0.15	0.00
CEO Age	3,440	57.06	3,440	56.87	0.19
Tenure	3,440	7.18	3,440	7.26	-0.08
Duality	3,440	0.68	3,440	0.67	0.01

	NP		DEM		
Variables	N	Mean	N	Mean	Diff
Log(Asset)	1,667	7.67	1,667	7.65	0.01
Total Debt	1,667	2,366.00	1,667	2,088.89	277.11
MTB	1,667	1.79	1,667	1.77	0.02
Op. Inc.	1,667	0.14	1,667	0.14	0.00
CEO Age	1,667	56.66	1,667	56.63	0.03
Tenure	1,667	6.77	1,667	6.79	-0.02
Duality	1,667	0.67	1,667	0.66	0.01

	REP		DEM		
Variables	N	Mean	N	Mean	Diff
Log(Asset)	1,565	7.75	1,565	7.74	0.01
Total Debt	1,565	2,214.68	1,565	2,143.53	71.15
MTB	1,565	1.78	1,565	1.74	0.04
Op. Inc.	1,565	0.14	1,565	0.14	0.00
CEO Age	1,565	56.99	1,565	56.95	0.05
Tenure	1,565	6.99	1,565	6.90	0.10
Duality	1,565	0.67	1,565	0.68	-0.01

Table 10. Propensity Score Matching (PSM). The dependent variable is the change in total debt scaled by book value of assets. All specifications include year and industry fixed effects and standard errors are clustered at the firm level. ** and *** denote significance at a 0.10, a 0.05 and a 0.01 levels, respectively.

	NP-REP		NP-DEM		REP-DEM	
	(1)	(2)	(3)	(4)	(5)	(6)
Target Deviation	.231*** (.014)	.23*** (.016)	.227*** (.025)	.255*** (.028)	.224*** (.019)	.268*** (.022)
Target Deviation $Bi-REP$.017 (.029)					
Target Deviation $PartisanREP$.011 (.025)					
Target Deviation $Bi-DEM$.023 (.036)		.043 (.032)	
Target Deviation $PartisanDEM$			-.083** (.038)		-.112*** (.032)	
Observations	6,876	6,876	3,318	3,318	3,124	3,124
R ²	.166	.166	.19	.193	.177	.182
Year FE	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓
Firm Cluster	✓	✓	✓	✓	✓	✓

5 Conclusion

CEOs have distinct characteristics and managerial styles that are influenced by their political partisanship. Managerial political ideologies and their associated views on risk and taxes may affect how CEOs perceive the benefits and costs of debt and, subsequently, leverage choices. Since firms, in theory, have optimal capital structures that maximize shareholders' value, we examine how CEOs' political ideologies relate to firms' adjustment speed toward optimal target leverage. We exploit a unique framework that allows us to examine CEOs' leverage choices driven by risk separately from those driven by tax considerations.

We find that under-leveraged firms with highly partisan Democrat CEOs take 2.8 more years than non-political CEOs to revert to optimal leverage ratios (6.7 vs 3.9). It is likely that partisan Democratic CEOs' have slower SOA due to their views on the tax-benefits of debt, as under-leveraged firms do not have bankruptcy risk or incur financial distress costs. The 2.8 additional years of adjustment represents an agency cost to shareholders, as firms miss out on tax-deductions directly contribute to their bottom lines. We do not document such agency costs for firms with bipartisan Democrats, bipartisan Republican, or partisan Republican CEOs.

Additionally, we exploit the Tax Cut and Jobs Act as an exogenous event that negatively impacts corporate demand for debt. Surprisingly, results suggest under-leveraged firms with partisan Democrat CEOs have *completely stopped* adjusting towards their target leverage ratio after TCJA. Lastly, results suggest that the agency costs of political partisanship can be reduced by greater exposure of CEO wealth to firm value. Overall, results indicate that agency costs of political partisanship can be reduced when the interests of CEOs are aligned with those of shareholders. Our paper goes to show, even in times of extremely divisive politics, corporate governance can mitigate the agency costs of partisanship.

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