MESSAGING AND POLITICS IN FIRMS: CONVEYANCE METHODS, CULTURE MESSAGING, AND THE PRESIDENTIAL PUZZLE

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by
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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

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ABSTRACT

This dissertation investigates how firms strategically shape communication and behavior in response to investor attention and political environments, providing new insights into disclosure effectiveness, cultural signaling, and political cycles in financial markets.

Chapter one explores how the mode of communication affects investor response. It finds that oral disclosures—especially those delivered in-person—generate stronger stock price reactions than written statements, even when the content is similar. These results underscore the importance of real-time social interaction and audience salience in driving investor attention.

Chapter two examines how firms adjust their culture-related messaging in response to shifts in the U.S. political climate. During periods of heightened polarization, such as the Obama and Trump administrations, firms reduce cultural signaling, particularly when misaligned with the prevailing political leadership. These patterns suggest that culture messaging is a form of strategic communication shaped by the broader political context.

Chapter three contributes to the literature on the "presidential puzzle" by identifying real economic mechanisms behind the pattern of lower stock returns during Republican presidencies. Firms experience lower sales growth, investment, and

profitability—particularly in Democrat-leaning regions—indicating that political cycles have tangible effects on firm fundamentals. The findings offer a rational explanation for return differentials tied to partisan leadership.

Collectively, this dissertation deepens our understanding of how firms manage communication and adapt operationally in politically and behaviorally complex environments.

CHAPTER 1

Unlocking the Power of Speech: Oral vs. Written Communications on Investor Attention

Abstract

I investigate the effectiveness of different disclosure methods in capturing investor attention, due to limited attention and firms' use of approaches for communication. By comparing oral and written disclosures, I show that oral updates generate significantly stronger stock price reactions than written ones. Moreover, while negatively toned oral updates elicit a sharp market response, the tone of written disclosures has little impact. Leveraging the COVID-19 pandemic to examine "social interaction" as a key driver of announcement effects, I show that investor attention is greater during in-person meetings, highlighting the role of real-time feedback and salience. My findings underscore the superiority of oral communication in enhancing investor engagement and information processing.

1. Introduction

Attention is a finite resource with varying individual responses (Kahneman, 1973). Investors, like all people, have limited attention, leading to prices not fully reflecting information (Peng & Xiong, 2006; Cohen & Frazzini, 2008; Hirshleifer et al., 2009; DellaVigna & Pollet, 2009; Ben-Rephael et al., 2017). This affects investors' reactions to firm disclosures—despite the value of 10-K reports, investors underreact due to complexity (You & Zhang, 2009), and that inattention to firm filings weakens announcement effects (Cohen et al., 2020). Motivated by research on limited attention, I examine whether the mode of communication—oral versus written—shapes the degree of investor inattention to firm disclosures. In this paper, I show that while written statements yield muted market responses, oral speech elicits stronger reactions—despite the similar content. I also test whether this difference can be explained by the presence of face-to-face interaction, using variation in meeting formats during the COVID-19 pandemic to assess the role of real-time audience feedback in shaping investor engagement.

The communication literature provides evidence of differences between oral and written communications, finding that oral communication involves more social interactions (Chafe, 1982; Chafe and Danielewicz, 1987). The differences in communication modalities have also been studied in the consumer literature, demonstrating distinct effects on consumer reactions to brands (Berger, 2014; Chen and Lurie, 2013; Moore, 2012). For instance, Shen and Sengupta (2018) compare "word of mouth" (speaking) and "word of mouse" (writing) and find that speaking, due to its social interaction aspect, captures greater attention from recipients. The finance and accounting literature have explored nonverbal communication, encompassing vocal cues or delivery observed during

conference calls (Hobson, Mayew, and Venkatachalam, 2012; Mayew and Venkatachalam, 2012; Baik et al., 2023), as well as body language displayed during entrepreneur pitches (Dávila and Guasch, 2022).

Moreover, prior research shows that speakers actively engage with their audience while writers focus on conveying information. This difference arises because speakers have a heightened awareness of their audience (Chafe, 1982; Fondacaro & Higgins, 1985; Tannen, 1985; Jahandarie, 1999) and typically communicate in real-time with immediate feedback (Wakefield, 1992; Rubin, 1987). Unlike written communication, oral exchanges allow speakers to gauge audience reactions and listeners to seek clarification (Jahandarie, 1999). Bushee, Jung, and Miller (2011) further show that the "disclosure milieu" in conference calls influences market reactions. Expanding on this, I compare in-person, hybrid, and virtual meetings during COVID-19 to assess how reduced real-time interaction affects investor responses. I hypothesize that investors respond more strongly to oral communication than to written statements, since the heightened level of interaction with real-time audiences in oral presentations facilitates more effective information reception.

Given prior findings of limited market impact from 10-K reports (You & Zhang, 2009; Brown & Tucker, 2011; Cohen et al., 2020), I use the Management Discussion and Analysis (MD&A) section as the representative written disclosure, for comparing written and oral communication.[1] I select the presentation segment of shareholder meetings as the oral counterpart (for comparability with the written disclosure, the oral counterpart must be mandatory, contain similar firm performance information for the same fiscal year, and

[1] Although any disclosure can cater to different messages and audiences, the objective remains consistent: to disseminate information regarding the firm's performance and prospects. The nuanced differences in messages and target audiences are of secondary concern.

be delivered by comparable individuals).[2] To empirically validate the similarity between shareholder meetings and MD&A disclosures, I conduct two complementary tests. First, a t-test confirms that the average cross-sectional content similarity—measured by standard text-based metrics—is statistically significant. Second, a predictive analysis demonstrates that updates in MD&As reliably forecast changes in shareholder meeting presentations. These results provide strong empirical support for treating the two sources as comparable in content. However, despite their similarity in topics, the disclosures differ in tone and expression: firms adopt more negative language in MD&As and present more positive sentiment during shareholder meetings.[3]

Prior studies compare earnings conference calls and announcements, showing that calls incrementally impact earnings disclosures (Bowen et al., 2002; Kimbrough, 2005). While earnings announcements and conference calls could serve as written and oral disclosures, their close timing makes it infeasible to isolate the medium's effect from its associated repetition. Typically occurring within a few hours to a day, these voluntary disclosures ensure content similarity but blur the distinction between communication format and repeated exposure. Cohen et al. (2020) find that major changes in 10-K filings influence firm value gradually, not immediately, highlighting the role of disclosure timing.

[2] All U.S. states have laws that address shareholder meetings in some form. For example, Title 8 of the Delaware Code states: "Meetings of stockholders may be held at such place, either within or without this State as may be designated by or in the manner provided in the certificate of incorporation or bylaws, or if not so designated, as determined by the board of directors." (https://delcode.delaware.gov/title8/c001/sc07/) I do not use the full annual report and shareholder meeting but the components of each (MD&A and annual meeting presentation), as my focus is on whether investors give more attention to information according to the method of conveyance and not on understanding whether full firm information is described in the MD&A or presentation.

[3] The Marcus Corporation exemplifies this distinction in its communication. Its MD&A released in 2018 states, "…. several of our new PLF screens in fiscal 2017 included the added feature of heated DreamLounger recliner seats." In contrast, during the shareholder meeting in 2018, the CEO expressed a more positive sentiment: "Some of our DreamLoungers, by the way, also offer heated seats, as a matter of fact, to make the guest experience even more exceptional."

Unlike earnings calls, shareholder meetings occur months after 10-K reports, thus enabling a clearer distinction between oral presentation effects and repetition. By leveraging this extended gap, my study isolates the unique influence of oral presentations on investor response.

Another potential concern is that shareholder meeting presentations could convey more value-relevant information than MD&As, influencing stock prices due to content rather than communication methods. However, prior studies show mixed stock price reactions to shareholder meetings (Karpoff et al., 1996; Strickland et al., 1996; Del Guercio & Hawkins, 1999; Thomas & Cotter, 2007; Cuñat et al., 2012), similar to the mixed effects of MD&As.[4] This suggests neither disclosure is inherently more value-relevant, supporting a fair comparison. Unlike past research on governance and activism, my study focuses on informational content, confirming the predictive value of both disclosures for future firm performance.

Confirming content similarity allows for further analysis of market reactions to both disclosure types. Cumulative abnormal returns (CAR) show no significant response to 10-K filings with MD&As, aligning with prior research on the declining market impact of 10-K reports (You & Zhang, 2009; Brown & Tucker, 2011; Cohen et al., 2020). In contrast, shareholder meeting dates show that oral disclosures capture investor attention. My findings remain robust across various similarity measures, excluding pandemic-era events, and controlling for factors such as meeting agendas, investor attention, and textual

[4] Although these studies primarily focus on shareholder activism, their event study tests capture both shareholder activism's and information updates' effects. Denes, Karpoff, and McWilliams (2017) summarize empirical results in 38 studies related to shareholder meetings, including shareholder proposals and hedge fund activism. Among the 11 studies they review, only two show significant effects on shareholder meeting proposals; their evidence thus helps alleviate the concern that shareholder meetings are impactful because of the proposals.

information. Notably, smaller differences (higher similarity) between prior and current years elicit a positive market response, even when accounting for sentiment. This suggests that larger deviations are often linked to negative adjustments. Overall, the strong market reaction during meetings highlights the effectiveness of oral communication in engaging investors.

Next, I analyze the tone of updates to assess the incremental role of tone on investor inattention. I find that the market responds more strongly to negatively toned updates during shareholder meetings—in contrast, investors do not exhibit a significant response to either positively or negatively updates in the MD&A statements. I further examine whether investors respond more to sentiment added in the current year or omitted from the prior year. Among negative updates in shareholder meetings, I find the strongest market reaction occurs when firms omit previously disclosed negative sentiment. This suggests that investors are particularly sensitive to the absence of expected negative information, likely interpreting it as evasiveness or a red flag. This suggests that when management fails to address past negative events, investors—who are particularly sensitive to negative news—respond unfavorably. The greater focus on negative attention is consistent with prior literature finding investors susceptible to "negativity bias," in which the focus is more on negative aspects than positive (Tetlock, 2007; Tetlock, Saar-Tsechansky, and Macskassy, 2008).

To understand why investors respond more positively to higher content similarity, I examine whether this reflects an aversion to increased negativity. The analysis shows that firms tend to add more sentiment-driven content than they remove—especially negative tone—in both MD&As and shareholder meetings. Since firms mostly introduce new

negative information and investors are particularly sensitive to it, fewer changes (i.e., higher similarity) are seen as good news. This explains the positive stock reactions to more stable disclosures and highlights how investor attention is shaped by changes in tone.

I use the COVID-19 pandemic as a quasi-natural experiment to identify the role of social interaction in shaping investor responses to oral disclosures. Specifically, I compare in-person, hybrid, and virtual shareholder meetings, which differ in their level of real-time audience interaction but are otherwise similar in content and format. Some states continued to require in-person meetings during the pandemic, providing cross-sectional variation in meeting type. This setting allows me to isolate the effect of audience salience and real-time feedback on market reactions to oral communication.[5]

My findings show a significantly more negative stock price reaction in states where meetings are held in person compared to virtual or hybrid formats. Given the predominantly negative tone during the COVID-19 pandemic, investors reacted more strongly to negative information in in-person meetings. This aligns with Brown, Gale, and Grant (2022), who suggest that interactive disclosures enhance information processing. Additionally, my results highlight the importance of real-time audience feedback and salience (Fondacaro & Higgins, 1985; Rubin, 1987). While hybrid meetings included an audience, their impact was weaker, likely due to reduced feedback, lower salience, and smaller audiences during the pandemic. Overall, my findings suggest that social interaction is a key driver of oral disclosure effectiveness.

[5] In the *Wall Street Journal*, Jeremy Bailenson of Stanford notes: "Face-to-face communication is spatial. People maintain interpersonal distance, turn their heads to signal attention, and choose seating arrangements that reflect context, status, familiarity, turn taking, and all sorts of signals that make for great communication." (https://www.wsj.com/articles/friends-break-up-with-zoom-meetings-to-gather-in-person-11623160839)

My results remain robust when accounting for various factors that risk confounding the results, including voting agendas for particular topics or the overall focus of the meeting. I also consider factors that may influence investor attention, such as the timing of the disclosure within a crowded month and the proportion of institutional investors. Additionally, I examine other textual factors, including updates in Q&A sections, linguistic complexity, and entropy. Finally, I conduct subsample analyses, apply various textual methods, and include additional controls.

My findings contribute to the investor attention literature (Cohen and Frazzini, 2008; DellaVigna and Pollet, 2009; Hirshleifer, Lim, and Teoh, 2011; Ben-Rephael et al., 2017; Cohen et al., 2020). My primary focus is to investigate whether different methods of conveying information can distinctly affect investor inattentiveness and more effectively facilitate the efficient incorporation of essential information into stock prices. By comparing shareholder meetings and MD&As, I find evidence that oral conveyance, which offers greater levels of interaction, is more effective in reducing investor inattentiveness towards crucial fundamental firm information. Additionally, my findings highlight a notable market reaction to negative updates discussed in shareholder meetings, while no significant market reaction is observed for updates in MD&As.

My results contribute to the literature on information processing and firm disclosure by demonstrating that investors process information differently depending on the mode of presentation (Bochkay, Hales, & Chava, 2020; Dzielínski, Wagner, & Zeckhauser, 2021; Call et al., 2023). I show that oral presentations are more effective than written disclosures in enhancing investor comprehension and reaction, with social interaction as the key driver.

Elliott, Loftus, and Winn (2023) compare oral and written conveyance in an experimental setting, but my empirical approach examines how investors process and incorporate information into stock prices. While Elliott et al. find that oral communication weakens processing due to heuristic biases, I find that investors better understand and react more strongly to oral presentations, likely due to increased interactivity. This discrepancy may stem from sample differences—Elliott et al. use audio recordings of conference calls, whereas I analyze actual shareholder meeting transcripts. Additionally, Kimbrough (2005) finds that introducing conference calls alongside earnings announcements reduces investor and analyst underreaction. In contrast, my study focuses on how different communication modes influence investor attention.

2. Background and Literature

This paper extends the literature on investor attention to information, firm disclosure, and textual analysis. I begin by summarizing the concept of investor attention, which challenges the notion of market efficiency by demonstrating that investors often fail to fully incorporate information into stock prices. For instance, Cohen and Frazzini (2008) reveal investors facing attention constraints, leading to delays in stock price adjustments following firm news releases. Similarly, Hirshleifer, Lim, and Teoh (2009) investigate the impact of extraneous news on market reactions to relevant information, finding that concurrent announcements from multiple firms can weaken price and volume responses to earnings surprises. Moreover, Ben-Rephael, Da, and Israelsen (2016) employ a direct measure of abnormal institutional investor attention and discover that while institutional investors may respond more swiftly to major news events compared to retail investors, they

are similarly constrained in their ability to devote full attention. Also, Fedyk and Hodson (2023) find that even financial professionals have difficulty discerning old news when recombining with multiple sources.[6]

Beyond firm news, prior literature finds that investors are not sufficiently paying attention to information associated with firm disclosures. Brown and Tucker (2011), studying MD&As, show that price reactions when 10-K filings are released to the public have declined over time and have no longer been associated with the modifications in the MD&As after the year 2000. They explain that such a negligible reaction is evidence that annual reports are becoming less useful. In contrast, Cohen et al. (2020) identify significant insights within overtime changes in 10-K and 10-Q filings, suggesting that the small price reaction is due to investors struggling to assimilate such information due to inherent inattentiveness. Similarly, You and Zhang (2009) demonstrate that despite the usefulness of 10-K filings in predicting future profitability, investors tend to underreact to the information in these reports due to their complexity. Building on these findings, my study aims to deepen the understanding of various information disclosure methods—oral and written methods—and their differential effects on investor attention. Furthermore, it is essential to acknowledge that investor attention can also be influenced by cognitive biases and heuristics, which can divert attention from relevant information despite its availability.

In addition to the constraints of investor attention, previous research indicates that investors process information differently depending on its content and presentation.

[6] Although most studies examine underreaction as a sign of investors' limited attention, Hirshleifer et al. (2011) also demonstrate that limited attention can sometimes lead to overreaction. However, their model ultimately shows that in equilibrium, limited investor attention results in underreaction. This finding supports the notion that strong stock price reactions indicate that investors pay attention to the information. I interpret my results in a similar way, emphasizing that underreaction implies limited investor attention rather than overreaction.

Regarding content having different influence on investors, sentiment is the most widely examined topic. I also examine how the sentiment of the content updates in shareholder meetings and MD&As distinctly impacts investor reactions. Most prior literature focuses on the effects of pessimism or negative sentiment on stock prices. Prior studies find that negativity in media (Tetlock, 2007; Tetlock, Saar-Tsechanky, and Macskassy, 2008) in analyst reports (Huang, Zang, and Zheng, 2014) and in MD&As (Feldman et al., 2010) have a stronger impact than positive sentiment. I show similar results, where negative information in shareholder meetings receives more attention from investors. However, other literature shows that positive sentiment is also influential, as Jeegadeesh and Wu (2013) find that both positive and negative sentiment in annual reports significantly relate to market reaction. Azimi and Agrawal (2021) propose an alternative method for measuring sentiment, distinct from the conventional word-based approach, and find that their positive sentiment metric predicts abnormal returns during filing periods. Similarly, Call, Flam, Lee, and Sharp (2023) observe that when managers employ humor during earnings calls, the market and analysts interpret it as a positive signal for the firm and respond accordingly.

Alongside sentiment, other studies have examined how investors process novel information. Cohen et al. (2020) find that investors lack attention to updated information in annual and quarterly reports regardless of their usefulness. I use the measures for information updates from Cohen et al. (2020) to test whether investors better recognize the information updates if given orally in shareholder meeting presentations. Glasserman and Mamaysky (2019) demonstrate that unusual news carrying negative sentiment can predict an increase in market volatility. Glasserman, Mamaysky, and Qin (2023) discover that entropy—a measure of news novelty—can forecast negative market returns instead of

sentiment. Overall, these findings highlight the multifaceted nature of investor information processing and underscore the importance of considering the sentiment and novelty of information in shaping market reactions.

Next, prior literature examines how presentation affects information processing and investor reactions. Brown, Gale, and Grant (2021) explored the impact of information presentation by focusing on repetition and interactivity in disclosures. Their findings suggest that repeated information facilitates processing, while interaction promotes deeper comprehension of repeated and non-repeated information. While their study primarily examined written statements' effects, my research contrasts two distinct communication methods conveying similar information. Another closely related study by Kimbrough (2005) found that closely repeated information led to stronger reactions, as underreaction to announcements, decreased when conference calls were held concurrently with earnings announcements. Although Kimbrough (2005) considered the timing of earnings calls, the primary objective wasn't a direct comparison but an investigation into outcomes when they occurred in close succession. My research diverges by exploring how different communication modes impact investor attention.

Other studies support these findings, indicating that easily comprehensible presentations lead to more questions and increased interactions, CEOs who communicate clearly with fewer uncertain words elicit stronger responses from the market, and information presented in extreme language garners stronger market responses (Bochkay, Hales, and Chava, 2020; Dzielínski, Wagner, and Zeckhauser, 2021; Call et al., 2023). Elliott et al. (2023) conduct an experiment comparing oral and written firm disclosures, demonstrating that communication tone and mode influence investor judgment. They find

that oral conveyance leads to heuristic processing and challenges in information absorption. In contrast, I posit that oral communication is more effective in curbing investor inattention due to its interactive nature and inherent difference from written communication. Additionally, I analyze stock price reactions based on different types of communication modes.

My paper is also related to the existing literature on firm information disclosure. Researchers have extensively studied these two sources to understand their significance and impact on various aspects. Bae et al. (2022) explore the complexity and informativeness of annual reports, discovering that these reports offer greater informativeness over the long run compared to the short term, resulting in reduced uncertainty. They identify the MD&A section as the primary source of information within these reports. Dyer et al. (2017) examine significant changes in the characteristics of 10-K disclosures. Their findings reveal increased report length, boilerplate language usage, repetitive content, and adherence to standardized language, while specificity and readability have decreased. Furthermore, Cao et al. (2022) observe that firms with high machine readership rates have started adapting their filings to accommodate machine processing, indicating a response to the increasing prominence of Artificial Intelligence (AI) readership.

Prior literature has also examined shareholder meetings, albeit not to the same extent as firms' disclosures. Dimitrov and Jain (2011) find that firms release positive news before their meetings to influence shareholders (as they find positive market reactions before the meeting date), and firms with relatively dissatisfied shareholders tend to have higher premeeting returns. Yermack and Li (2016) show that when attempting to avoid

detailed evaluation from stakeholders, firms schedule their meetings in locations far from headquarters. After the meeting, such firms experience lower voter participation and underperformance in the stock market. Additionally, Cepuch (2007) shows that shareholders commonly question manager compensation during shareholder meetings, especially when firms' stock performance is poor.

There are studies examining the impact of the shift from in-person to virtual meetings, as more firms voluntarily chose to make the shift. Brochet, Chychyla, and Ferri (2021) find that a firm's choice to hold virtual shareholder meetings is not to avoid scrutiny and does not cause significant loss in informational content—but does lead to shorter meetings. The 2020 COVID-19 pandemic made in-person meetings difficult, leading to most firms holding virtual shareholder meetings.[7] Schwartz-Ziv (2021) shows that virtual meetings are more limited in communication, as the meetings are shorter with less dedicated time. Also, she shows that firms are more likely to ignore shareholders' questions and limit the scope when their votes are against management recommendations. I differentiate from these papers by comparing two separately examined information disclosures.

Finally, my paper adds to past research, performing textual analysis to measure qualities and characteristics that are difficult to quantify. In one of the most well-known papers on textual analysis, Loughran and McDonald (2011) form a sentiment dictionary widely used in the accounting and finance literature. Li (2008) uses the Fog index to measure the complexity of annual reports and presents that firms with lower earnings have a more difficult report. At the same time, Loughran and McDonald (2014) measure

[7] The SEC provides regulatory flexibility to shift to virtual shareholder meetings during and after COVID. https://www.sec.gov/news/press-release/2020-62

readability as the size of the firm's filings. Li et al. (2021) use machine learning on earnings call transcripts to create a culture dictionary consisting of five categories: innovation, integrity, quality, respect, and teamwork. Hou and Wang (2023) conduct a study focusing on the China Securities Regulatory Commission (CSRC) disclosure practices. They construct a disclosure dictionary based on the CSRC and find that a greater emphasis on disclosure in these speeches positively influenced the quantity and quality of information. In addition to producing different measures, many studies have used textual analysis to analyze various sources. For instance, the similarity measure, which enables the examination of new information, has been applied to various documents such as Initial Public Offering (IPO) prospectuses, analyst reports, mutual fund prospectuses, and annual and quarterly reports (Hanley and Hoberg, 2010; Huang et al., 2017; Hoberg and Lewis, 2017; Kostovetsky and Warner, 2020; Cohen et al., 2020).

3. Data & Empirical Specification

3.1 Data

The shareholder meeting transcripts are collected from CapitalIQ and are available from 2011 to 2020. The MD&As are extracted from item 7 of the 10-K filings in EDGAR. The main goal is to compare oral and textual information, so the MD&As are restricted to the shareholder meeting transcripts in CapitalIQ. Accounting variables and stock returns are collected from Compustat. The overall data is from 2011 to 2020, and the MD&A sample consists of 2,721 firm-year level observations, while the shareholder meetings sample consists of 2,318 firm-year observations. The observations are limited by two restrictions: the availability of shareholder meeting transcripts in CapitalIQ and the

presence of transcripts (MD&A) for two consecutive years for the same firm due to the variable of interest capturing year-over-year changes.

Shareholder meetings are typically divided into two main portions: The agenda portion, during which a firm's management gives presentations of the business and voting takes place, and the Q&A portion, in which attendees can ask questions.[8] As my goal is to compare with MD&As, I only use presentation portion of the transcript, as 10-K written filings do not have a Q&A session. Transcripts containing little content tend to show very high or low similarity from their previous year, so those with less than 500 words are removed. This also serves to omit shareholder meetings where there are no business presentations, which are mostly short meetings. This is a different measure than Brochet et al. (2023), as they use keyword counts and remove short meetings of less than 250 words to distinguish business presentations. I find that my results are robust, following their way of identifying business presentations. The test results are in Table A.5. CapitalIQ provides a consistent format for the front and last pages of the transcripts, as well as headers and footers that express the rights of the content. However, this standardized format may overemphasize similarity when conducting the analysis. Therefore, the front and last page, as well as the headers and footers, are removed to avoid any potential bias in the results.

Cohen et al. (2020) state that changes firms make in their filings are focused on the MD&As, as managers have more discretion and flexibility. MD&As tend to be longer than transcripts, but often, a few are less than 500 words, and those MD&As are removed for reasons similar to those of the shareholder meeting transcripts. To make a fair comparison, I use MD&As specifically within 10-K reports. Although MD&As are also in

[8] Only the general meetings are included in my sample; all special meetings are removed.

the 10-Q reports, as shareholder meetings are only held once a year, I only include MD&As in 10-K reports. For both shareholder meetings and MD&As, stop words and numbers are removed. I do not stem the words for the following results, but I show in the Table A.5 that after stemming the words, the main results are still robust.[9]

Two different similarity measures are used to capture the updates in information over time for the shareholder meetings and MD&As and to test whether investors react at the time of the event. The first is Jaccard similarity ($Jacc\_simil_{mda}$ or $Jacc\_simil_{shmeeting}$). The similarity measure is used in prior literature to measure changes in information between two documents over time or cross-sectionally (Tetlock, 2011; Cohen et al., 2020). Jaccard similarity calculates the size of the overlapping intersection of the two sets of words divided by the size of the union of the two sets. The equation is:

$$Jacc\_simil_{shmeeting}\left(\text{shmeeting}_{t-1},\text{shmeeting}_{t}\right)=\frac{\left|\text{shmeeting}_{t-1}\cap\ \text{shmeeting}_{t}\right|}{\left|\text{shmeeting}_{t-1}\cup\ \text{shmeeting}_{t}\right|}$$

$$Jacc\_simil_{mda}(\text{mda}_{t-1},\text{mda}_{t})=\frac{\left|\text{mda}_{t-1}\cap\ \text{mda}_{t}\right|}{\left|\text{mda}_{t-1}\cup\text{mda}_{t}\right|}$$

Given the nature of MD&As and shareholder meeting transcripts, which are short and contain unique firm-specific terms, $Jacc\_simil_{shmeeting}$ ($Jacc\_simil_{mda}$) is considered a more suitable method than other textual similarity measures as it places less emphasis on word frequency. I compare shareholder meeting presentations at time *t* to *t-1* to measure updated information. I apply the same comparison to the MD&As. The higher the measure for $Jacc\_simil_{shmeeting}$ ($Jacc\_simil_{mda}$), the higher the similarity or, in other words, less the information change.

[9] Stemming, although it has its benefits, may not capture information well as the root words' meanings change with common prefixes or suffixes. Loughran and McDonald's (2011) dictionary understands that there is a change in meaning, so it expands to include variants for common root words.

The second measure, $Simple\_simil_{shmeeting}$ ($Simple\_simil_{mda}$), is adapted from Cohen et al. (2020) and serves as a straightforward similarity metric. It quantifies the sum of additions, deletions, and changes relative to the average length of documents at times *t-1* and *t*. This measure captures the actual alterations between transcripts from time *t-1* to *t*, including information added, deleted, or otherwise modified. The $Simple\_simil_{shmeeting}$ ($Simple\_simil_{mda}$) measure have been normalized to facilitate a similar comparison to $Jacc\_simil_{shmeeting}$ ($Jacc\_simil_{mda}$). An increase in the measure indicates greater dissimilarity (information changes), offering insights into shifts in information content over time.[10]

Gathering information on additions, deletions, and changes enables a more nuanced assessment of sentiment specific to these updates. I employ the dictionary developed by Loughran and McDonald (2011) to gauge the sentiment of these alterations. While prior literature often measures changes in sentiment by subtracting the sentiment of the current year from that of the previous year, thereby capturing the difference in positivity or negativity between documents, my approach focuses on directly measuring the sentiment of the changes. This method provides a more nuanced evaluation of each year's unique positivity or negativity. Such an approach aligns better with the central focus of this paper, which revolves around evaluating whether investors effectively integrate information updates into stock prices.

[10] Table A.3, Panel B provides robustness of the results in Table 2 with different similarity variables including the cosine similarity and a different simple similarity measure. To better understand how investors might react at time *t*, I introduce another variable, Simple_$update_{shmeeting}$ *(*$Simple\_update_{mda}$*)* similar to Simple_$simil_{shmeeting}$ *(*$Simple\_simil_{mda}$*).* Here, the denominator is the length at time *t*, rather than the average length, facilitating an interpretation more closely resembling how investors would compare information in the current context. By basing the comparison on the current information available, it aligns more closely with investors' decision-making processes.

By examining the sentiment of changes, I consistently explore whether updated sentiment influences investors rather than solely focusing on sentiment within a specific year. For instance, negative sentiment present in 2010 but absent in 2011 would be deemed as "positive" for investors in 2011, indicating the removal of negative news. Conversely, positive sentiment exclusive to 2011 but not present in 2010 signifies the addition of positive news for investors in 2011. *Pos_updates* (*Neg_updates*) represents the combined effect of the deletion of negative (positive) sentiment exclusive to 2010 and the addition of positive (negative) sentiment exclusive to firm year *t*. I also test with the components of sentiment to better understand whether an investor at time *t* focuses on the information that was removed from the prior year or what was added (*pos_add, pos_sub, neg_add, and neg_sub)*. All sentiment variables comparing information from time *t-1* to *t* are divided by the corresponding sentiment at time *t*. This approach helps to examine how an investor at time *t* would react to the addition or subtraction relative to the current positive or negative news.

3.2 Empirical Specification

I focus on how the differently conveyed information describing the same firm and year is received and processed differently by investors, leading to distinct market reactions. I first examine how certain information and its structure and expression of each oral and written conveyance lead to different market reactions. My main specification uses industry and year fixed effects and estimates:

$$CAR_{i,t} = Textual\_Measure_{i,t} + Firm\_Control_{\mathrm{i,t}} + Industry_j + Year_t + \delta_{i,j,t} \quad (1)$$

where $CAR_{i,t}$ is 3-day market-adjusted cumulative abnormal returns for firm i around the event for either when the shareholder meeting is held or when the 10-K report is publicly released. $Textual_{Measures\,i,t}$ includes different textual measures to estimate the differences between shareholder meetings and MD&As, including similarity and sentiment. Similarity measures include the $Jacc\_simil_{shmeeting}$ ($Jacc\_simil_{mda}$) and $Simple\_simil_{shmeeting}$ ($Simple\_simil_{mda}$). The sentiment measures are the negative and positive sentiments of the updates made over the year in the shareholder meetings and MD&As. Also, to examine the effect of social interaction, I test with measures of the Q&A section in the shareholder meeting, including an indicator variable identifying firms with or without the Q&A session during the meeting, the length of the Q&A session, and the sentiment of Q&A updates over time. $Firm\_Controls_{i,t}$ include log of market-to-book ratio, book leverage, and log of assets. $Industry_j$ is industry fixed effects (four-digits), and $Year_t$ is year fixed effects. Standard errors are clustered at the year level. More specific variable definitions are included in Table A.1.

I also examine the core alterations within the year-by-year updates. The specification includes industry and year fixed effects and is the following regressions:

$$Textual\_Measures_{i,t} = Sentiment\_Measure_{i,t} + Firm\_Controls_{\mathrm{i,t}} + Industry_j + Year_t + \sigma_{i,j,t} \quad (2)$$

This test evaluates whether firms predominantly make positive or negative updates, aiding in the interpretation of investor reactions. Understanding the sentiment of these updates is important, as it sheds light on whether investors favor or disfavor information updates, especially considering that the primary changes tend to be more positive or negative in nature.

Next, I examine whether the information provided in each disclosure pertains to the firm's prospects and is essential for understanding its operating performance. The specification for the examination employs industry and year fixed effects and is the following regressions:

$$Operating\_Performance_{i,t} = Textual\_Measure_{i,t} + Firm\_Controls_{\mathrm{i,t}} + Year_t + Industry_j + \tau_{i,j,t} \quad (3)$$

The measures of operating performance are: *Ebitda/lat* is earnings before interest, taxes, depreciation, and amortization (Ebitda) over lagged total assets (lat) and *Ib/lat* is income before extraordinary items (Ib) divided by lagged total assets (lat). The denominator is total assets lagged for one year. All regression standard errors are clustered at the year level. The regression assesses whether the shareholder meetings or MD&As contain fundamental information about the firm by testing whether the previous year's information predicts the following year's performance and innovation.

3.3. Descriptive Statistics

Table 1 presents summary statistics for textual measures, firm characteristics, and performance of MD&As and shareholder meetings. Panel A provides summary statistics for shareholder meetings, while Panel B is for MD&As. Upon examining similarity, both panels demonstrate that MD&As exhibit higher values for the Jaccard similarity (0.775), compared to shareholder meetings (0.464 for Jaccard similarity). When comparing length-related similarity measures, $Simple\_simil_{shmeeting}$ ($Simple\_simil_{mda}$), I consistently find that MD&As are more similar in terms of overtime content updates than shareholder meetings. Regarding sentiment updates, MD&As tend to exhibit slightly more positive updates (0.135) than negative ones (0.133). Similarly, shareholder meetings show a higher average of positive updates (0.764) compared to negative ones (0.690). However, the difference in

the size of the sentiment ratios indicates that shareholder meetings tend to use a wider range of both negative and positive-toned words in their current year updates compared to MD&As. While MD&As exhibit a minor disparity between average negative and positive tone updates, with just a 1.2% difference, shareholder meetings show a larger gap of 10.7%.

Past literature has shown that shareholder activism is one potential explanation for the shareholder meeting tone updates being more positive than MD&As. For instance, Ertimur, Ferri, and Muslu (2011) find that shareholder proposals negatively impact CEO compensation, putting pressure on the CEO. Responding to such pressure, CEOs tend to release positive news 40 days before the meetings occur, as observed by Dimitrov and Jain (2011), to reduce shareholder discontent. Table 1 statistics indicate that efforts to manage stockholder pressure persist even during the meetings, as firms tend to express their performance and expectations more positively than they would in their annual reports.

Panel C presents the mean cross-sectional similarity of MD&A and shareholder meetings with various similarity measures, confirming the similarity in content discussed by the two disclosures. The similarity measures include Jaccard, cosine, dice, and correlation similarity measures. T-tests are conducted to assess whether the similarity measure significantly differs from zero, supporting the similarity in discussion topics in shareholder meetings and MD&As.[11] In addition, Table A.2 provides annual average of the Jaccard and cosine similarity and its t-test results, providing support of how the contents are similar between shareholder meetings and MD&As each year. As shown in Table 2, Panel C and Table A.2, these results offer substantial support, alleviating concerns

[11] For instance, the example of Marcus Corporation in footnote 4 offers a useful benchmark for interpreting similarity scores. In 2015, the firm's MD&A and shareholder meeting content were notably aligned in tone and focus. While the average Jaccard similarity across the full sample is 0.145 and statistically significant, Marcus Corporation's Jaccard similarity in 2015 is 0.245, reflecting a higher degree of textual overlap.

regarding disparate information presentation between the two disclosures and ensuring a valid comparison of communication modes based on consistent content throughout the sample period.

4. Main Results

In the following tables, I test for the announcement effects for each event and whether investors react to management's general updates or specific tone updates. The regressions are conducted with industry and year fixed effects, comparing within-year and within-industry variations. Standard errors are clustered at the year level. I test with 3-day CARs of the meeting or filing and the similarity measures: $Jacc\_simil_{shmeeting}$ ($Jacc\_simil_{mda}$), *and* $Simple\_simil_{shmeeting}$ ($Simple\_simil_{mda}$). These similarity variables quantify changes between documents or presentations, capturing information updates from the prior year to the current. $Simple\_simil_{shmeeting}$ ($Simple\_simil_{mda}$) is scaled to maintain consistency with the Jaccard similarity, where an increase signifies a percentage increase in the similarity or smaller updates of the document. Firm characteristics, including size, log of leverage, and log of market-to-book ratio, are controlled for alongside the log of length of the presentation or MD&A, which proxies and controls the overall amount and duration of information within.

4.1 Investor Reaction to Oral and Written Information

The test aims to ascertain whether investors efficiently integrate updated information, measured through various textual metrics, into stock prices within event windows of shareholder meetings and MD&A disclosures. The expectation is that if investors better understand the information presented in an oral method than a written method, there would be a stock price reaction for the shareholder meetings but not for the

MD&As. The results are consistent with the expectations and presented in Table 3. Panel A presents results for market reaction for general update measures, while Panel B presents results for sentiment measures. The results elucidate whether investors efficiently incorporate changed management information into stock prices by regressing the information updates with stock returns.

Examining Panel A, the results indicate a price reaction to information updates orally presented in shareholder meetings, implying investors demonstrate better incorporation of orally delivered information. Across all measures, investors consistently exhibit a positive response to firms with fewer (or higher) information updates (similarity) within the same year compared to firms in the same industry, with the $Jacc\_simil_{shmeeting}$ and $Simple\_simil_{shmeeting}$ being significant. According to the results, a one-standard-deviation increase in Jaccard similarity will increase cumulative abnormal returns by 2.2%. The signs of the coefficients are consistent with Cohen et al. (2020), who show that although there is generally no significant announcement effect, firms undergoing significant reporting changes experience lower future returns. This positive reaction towards similar information could be attributed to investors' susceptibility to the "negativity bias," where they tend to focus more on negative information, combined with the changes generally involving negatively toned updates. [12] Furthermore, in Tables 2, Panel B and Table 4, I use specific sentiment measures to determine the most impactful sentiment of information updates.

[12] When testing the cross-sectional variable that measures content similarity between the MD&A and shareholder meeting for the same year ($Jacc\_simil_{mda\_shmeeting}$), I find that the similar content presented in both the MD&A and shareholder meeting significantly impacts stock prices.

The literature on investor reactions to MD&As is mixed: Feldman et al. (2010) find a contemporaneous effect, while Brown and Tucker (2011) and Cohen et al. (2020) report weakened or no response. My results align with the latter, showing no significant investor reaction to MD&A updates with all measures negatively but insignificantly related to stock returns. Unlike oral disclosures, written updates in MD&As fail to prompt a market response—even when overlapping with shareholder meeting content that does elicit a reaction. This highlights stronger investor sensitivity to orally presented information.

I also corroborate prior literature findings indicating the absence of an announcement effect for annual reports while extending the analysis to reveal announcement effects for shareholder meetings. Table A.3, Panel A outlines the CARs surrounding event dates for 10-K filings and shareholder meetings across various windows. The findings confirm the presence of an announcement effect for shareholder meetings as suggesting that investors are attentive to the information presented, albeit less so for MD&As.[13]

Understanding that investors are more attentive to information updates given orally than in writing, I examine the role of tone. As prior literature presents, the sentiment of the information is impactful to investors (Tetlock, 2007; Tetlock, Saar-Tsechanky, and Macskassy, 2008; Feldman et al., 2010; Jeegadeesh and Wu, 2013; Huang, Zang, and Zheng, 2014; Azimi and Agrawal, 2021). Cohen et al. (2020) measure sentiment of changes as a sum of addition, deletion, and changes to have a consistent measure with the similarity measures but do not consider more specific aspects of the changes. I delve deeper by testing the specific changes by identifying the positive and negative additions and deletions.

[13] For larger sample sizes, previous research indicates a negligible announcement effect for the 10-day event window (You and Zhang, 2009; Cohen et al., 2020).

In a similar empirical setting as Table 2, Panel A, I replace the similarity measures with sentiment measures: $Pos\_update_{shmeeting}$, which is a sum of positive addition and positive subtraction of words over the positive sentiment of the current year, and $Neg\_update_{shmeeting}$, which is a sum of negative subtraction and negative addition of words over the negative sentiment of the current year. The results are presented in Table 2, Panel B. I continuously find that investors pay attention to information better when given information orally rather than in written form, as the tone captured in the updated information leads to a price reaction for shareholder meetings but not for MD&As.[14] [15]

I find results consistent with Tetlock (2007), showing that investors are more responsive to negative changes, as indicated by the significant and negative coefficient for negative updates ($Neg\_update_{shmeeting}$). When examining the changes in more detail, it becomes evident that investors are particularly adept at processing the deletion of negative tones ($Neg\_sub_{shmeeting}$) from the previous year's presentations. In other words, investors notice when unique negative toned information discussed last year is no longer addressed in the current year, leading to a negative price reaction. This suggests that investors perceive the deletion of negative tone as unresolved issues not being fully addressed, raising concerns. Consequently, the absence of previously highlighted negative information could be interpreted as a lack of transparency or avoidance of critical issues, prompting a negative response in stock prices. Overall, investors consistently pay more

[14] I control for uncertainty and find that the results are robust. The results are not presented in the paper separately. Uncertainty is captured using the Loughran and McDonald (2011) dictionary, which includes imprecise terms such as "approximate" or "indefinite." Prior research shows that uncertainty in language affects investor behavior, influencing IPO returns and volatility (Loughran and McDonald, 2013) and leading to stronger market reactions when CEOs speak with less uncertainty (Dzielínski, Wagner, and Zeckhauser, 2021).

[15] In addition to the sentiment of the updates, I test with a general change in sentiments (Neg_sent_LM) and find that with a different sentiment measure, investors still focus more on a negative tone.

attention to negative rather than positive updates, and they react negatively to the removal of information. This susceptibility to the "negativity bias" is the first evidence of investors reacting more positively towards consistent information, as found in prior results. Further explanation is provided in the subsequent tests in Table 4. The results for MD&As B show that sentiment updates—positive or negative—do not significantly impact stock returns, suggesting investors do not process tone changes in written disclosures. While additions of uncertain words lead to negative reactions, the effects remain statistically insignificant. Overall, tone updates are more effectively conveyed through oral communication, with negative information and deletions driving the strongest investor responses.

4.2 Mechanism and Channel

4.2.1 Channel - In-person Meetings versus Hybrid and Virtual Meetings during the Pandemic

In exploring why oral conveyance is more effective, I investigate whether the level of social interaction during shareholder meetings plays a significant role. The results are presented in Table 3. The regression setting is a difference-in-difference setting that uses the shift of certain firms to virtual shareholder meetings due to the COVID-19 pandemic. I also use a two-way fixed effect with firm and year fixed effects. The COVID-19 pandemic prompted unexpected changes in how firms conducted their activities, with many firms transitioning to virtual shareholder meetings. However, not all firms had the option to go virtual due to differing state laws governing such meetings. States like Alaska, Arkansas, Georgia, Idaho, New Mexico, South Carolina, and South Dakota only allowed in-person meetings, although Arkansas and Georgia temporarily allowed virtual shareholder meetings during the pandemic.

This variation compares virtual and hybrid meetings with in-person meetings across different states. All three types of meetings involve oral communication accompanied by body language, facial expressions, or visual aids. However, in-person meetings typically foster more pronounced interaction between presenters and attendees. Even hybrid meetings, where there is an audience, are likely smaller in audience size than traditional in-person gatherings, diminishing the interactive benefits. Leveraging the COVID-19 pandemic as a shock and using the state's policy on in-person meetings as a treatment, I employ a Difference-in-Difference approach with two-way fixed effects. *COVID* serves as an indicator variable for 2020, while *In-person* identifies states mandating in-person shareholder meetings.

The results show that investors react more strongly when meetings are conducted in person during the COVID-19 pandemic than in virtual or hybrid formats. Table 3 demonstrates that investors display a more pronounced negative response to firms hosting in-person meetings amidst COVID-19. Prior studies find that information disclosed is more negative during this period, as Mamaysky (2023) documents a substantial decline in sentiment for released articles during the pandemic, while Hassan et al. (2022) find that firms tend to include significantly more negative information about the pandemic's impact in their earnings calls. Consequently, all firms communicate negative information regarding shocks to their supply and demand aspects. However, when delivered in person, this negative information elicits a stronger and more adverse reaction from investors.

In Column (2), I introduce a triple interaction term (*In-Person X COVID X* $Jacc\_simil_{shmeeting}$), to examine how varying levels of content similarity influence investor reactions in in-person states compared to other states during COVID-19. Consistent with

those in Column (1), the findings indicate that in-person states experience more negative investor reactions relative to other states during the pandemic. In a context when negative information predominates, the results show that firms with higher content similarity (indicating fewer updates) tend to receive more positive investor reactions, regardless of whether meetings are held in person, hybrid, or virtual. However, this positive effect is more pronounced in in-person states, supporting the idea that in-person communication, with its interactive elements, is more effective. Also, to avoid potential dilution of comparison benefits from audience interaction in hybrid meetings, I contrast in-person meetings with virtual meetings during COVID-19, excluding states allowing hybrid meetings. Results in Column (3) indicate that the stronger investor reaction is primarily observed in in-person meetings. In Column (4), I incorporate sentiment controls in the analysis to account for the impact of meeting information, further confirming the robustness of the results. Also, although not significant, the results shown in Column (4) are consistent with the previously mentioned COVID-19 literature, as the negative sentiment measure is twice the coefficient size compared to the positive tone measure. Overall, the findings suggest that oral conveyance, particularly in-person meetings, effectively addresses investors' limited attention through social interaction.

4.2.2 Mechanism - Core Alterations within Updates Over Time

Earlier results indicate that investors positively react to smaller changes (higher similarity) between firm disclosures from the prior year and the current year. This prompts an investigation into the reasons behind such a positive reaction. The first aspect to clarify is whether the preference for less change holds true regardless of whether the tone last year was predominantly negative or positive. Appendix Table A.4, which includes lagged

sentiment variables as controls for Table 2, shows that the results are consistent and even more significant. This implies that the positive market reaction is robust, irrespective of whether the previous year's presentation had a positive or negative tone. Thus, the expectation is that the primary alterations over the year are mainly negative, and investors, subject to the "negativity bias," will notice that the significant changes are more negatively toned than positively toned. Similarly, Cohen et al. (2020) find that firms with higher similarity measures are primarily associated with less negative sentiment or litigious words. To determine which tone is predominantly changed within the general information updates, I examine the statistical relationship between Jaccard similarity, which measures all general changes, and the sentiment change variables used in the prior test in Table 2. The results are presented in Table 4, Panel A. Also, for additional analysis on the content, Table 4, Panel B provides predictive analysis, showing that the content of MD&As preceding shareholder meetings helps predict the information presented in those meetings.

For both shareholder meetings and MD&As, the results reveal that firms predominantly augment their disclosures by adding information rather than removing it. Specifically, a decrease in similarity (indicating more change) is associated with increases in both positive and negative additions and subtractions. This finding aligns with existing literature on MD&As, which shows a trend of increasing length in 10-K reports and MD&As over time (Brown and Tucker, 2011; Dyer et al., 2017). The negative tone is the primary alteration made by firms in both shareholder meetings and MD&As. This finding contrasts with the summary statistics, which indicate that the sentiment in shareholder meetings is more positive than negative. The discrepancy arises because the Jaccard similarity metric accounts for the presence of unique words but does not consider the

frequency of those words. Consequently, even if positive words are used more frequently in shareholder meetings, the presence of a few unique negative words can significantly impact the Jaccard similarity, highlighting alterations in tone that may not be as apparent in a simple sentiment analysis.

The results for shareholder meetings indicate that the most significant changes involve adding negative tone information to the current year's disclosures, while the smallest changes involve removing positive sentiment from the prior year. This suggests that firms are more likely to add new negative information rather than remove past positive information. Conversely, for MD&As, firms primarily add negative tone information and make minimal changes by subtracting negative tone from the previous year. This trend of increasing negative information aligns with the notion that firms may provide more comprehensive risk disclosures over time. Overall, these findings highlight that firms are more focused on adding new information, particularly negative.

Connecting with the results in Table 2, Panel B, which show that the subtraction of negative information is associated with a significant price reaction, the findings in Table 4 suggest that investors are particularly sensitive to changes in the negative tone of information. Overall, these results support the explanation that the investors' positive reaction to higher similarity is driven more by their aversion to negative updates. The largest changes within shareholder meetings are negative updates, and since investors tend to focus more on negative information, their favorable reaction to less change (higher similarity) can be attributed to their aversion to negative updates.

In Table 4, Panel B, I examine whether updates and sentiment in MD&As can predict the content of shareholder meeting presentations held a few months after the release

of 10-K filings. The indicator variable *MDA_simil* equals one if the MD&A similarity is higher than the average. The findings show that firms with higher MD&A similarity are associated with higher content similarity in subsequent shareholder meetings ($Jacc\_simil_{shmeeting}$ and $Simple\_simil_{shmeeting}$). These results suggest that the content of MD&As is closely aligned with shareholder meeting presentations, as the similarity in MD&As predicts the similarity in these meetings. Also, negative sentiment in MD&As is found to predict changes in the content of future shareholder meetings.

4.3 Oral and Written Information Predicting Firm Performance

To provide additional evidence that the information in both shareholder meetings and MD&As is essential and not trivial, Table 5 demonstrates that changes in this information at time *t* predict firm performance the following year at time *t+1*. This finding suggests that the communication channel is the main factor contributing to investor reactions. Table 5 mainly examines lagged textual measures, including the $Jacc\_simil_{shmeeting}$ ($Jacc\_simil_{mda}$)and $Simple\_simil_{shmeeting}$ ($Simplesimil_{mda}$). Results with other similarity variables show similar results and can be found in the Appendix.

Table 5, Panel A shows that the shareholder meeting similarity measures predict future performance. An increase in the similarity (decrease in information modifications) negatively predicts the following year's performance. Unlike investors responding more positively if there is less unusual news, in terms of future fundamental information, the more changes, the more information is provided. Table 5, Panel B shows that, although there are no investor reactions to MD&As—contrary to Brown and Tucker (2011), who associate declining price responses with reduced usefulness—small changes in MD&As over time strongly predict various measures of firm performance in the following year.

5. Robustness

To ensure the robustness of the main findings, I conduct various tests and control for factors that influence stock price reactions. Table 6 includes considerations for shareholder meeting agendas in Panels A and B, factors affecting investor attention in Panel C, and linguistic elements within disclosures in Panel D. All results are for shareholder meetings, and the main similarity measures used are $Jacc\_simil_{shmeeting}$ and $Simple\_simil_{shmeeting}$. In addition to the tables in this section, supplementary results are provided in the Appendix. These additional analyses involve different methodologies, such as alternative identifications of shareholder meeting presentations Table (A.5, Panel A) and stemming of unigrams (Table A.5, Panel B and C). Also, in the Appendix, the main result with different controls, including current and lagged year sentiment (Table A.4) and governance measures (Table A.8). Furthermore, I perform subsample analysis removing the pandemic year (Table A.6 Panel A) and including the pandemic year (Table A.6 Panel B and C). Across all distinct controls and data identification approaches, the main findings remain robust.

5.1 Shareholder Meeting Agenda

One crucial aspect of shareholder meetings is the voting process on proposals, which could drive price reactions. To assess the focus on voting during these meetings, I quantify the frequency of voting-related keywords (e.g., 'vote,' 'ballot'). Table 6, Panel A present results exhibiting robustness, excluding the dynamic year 2020. The Appendix provides robustness including the year.

Furthermore, I investigate the influence of proposal topics, particularly executive compensation, on price reactions. Thomas and Cotter (2007) categorize proposals into four

main types: compensation proposals, external corporate control and governance proposals, internal corporate control and governance proposals, and other social responsibility proposals. In their sample, compensation proposals constituted the largest proportion, accounting for approximately 27.3% of the total. Therefore, I control executive compensation to address the potential impact of these proposals on the results. By incorporating data from Execucomp on executives' compensation, I introduce a control for the average annual executive compensation log. As shown in Table 6, Panel A, the results remain robust, indicating the resilience of findings even when accounting for this commonly discussed proposal topic.

Another common topic discussed is the replacement of CEOs or board members. This may also be a factor that impacts or drives the main results, as the language during the shareholder meeting presentations will change depending on who presents, mainly the CEO. I incorporate data from Boardex to identify the changes in CEO and board members. Table 6, Panel B, controls for the CEO turnover and board members, and the results are robust.

5.2 Investor Attention

Liu, Peng, and Tang (2022) highlight that retail investors tend to allocate less attention to stock news when other related news floods the market on the same day. Building upon their findings, I conduct a parallel investigation focusing on companies convening shareholder meetings amid periods when numerous other firms do the same. All results are for shareholder meetings. Table 6, Panel B outlines the outcomes. Given the overlap in fiscal year cycles among many firms, resulting in clustered meetings, simultaneous information releases may influence investor response. Limited attention

spans constrain investors' capacity to process and prioritize the inundation of information. Cohen et al. (2020) employ a similar methodology using SEC EDGAR traffic data to explore firms garnering heightened investor attention. In my study, I incorporate the logarithm of the number of meetings occurring within a given month as a control variable. The findings, presented in Table 6, Panel C remain robust despite clustering within specific months. The lack of a significant investor reaction to annual reports or MD&As may be attributed to the overwhelming volume of concurrently released filings, leaving investors unable to digest and react to each one thoroughly. The results for MD&As can be found in Appendix A.7, consistent with the main findings. Overall, the results affirm that verbal information consistently elicits a more pronounced investor reaction than written disclosures.

Institutional investors with larger ownership stakes in companies scrutinize these entities more closely than smaller retail investors. Consequently, the impact on price reaction may stem from firms with higher proportions of institutional ownership garnering more investor attention than the broader market. To address this, I control for the proportion of institutional ownership in the firm and find that the results hold steady, with even greater robustness observed when meetings held during the COVID-19 period are excluded. These results are detailed in Table 6, Panel C, focusing on meetings held outside the pandemic context.

5.3 Controlling for Other Information

Another potential explanation for the observed investor reactions in shareholder meetings is that the information or interaction during the Question and Answer (Q&A) session drives the results rather than the presentation segment of the meeting. To

investigate whether information updates dispersed during the Q&A session impact stock market returns, I control for the Jaccard similarity of the Q&A section. All results are for shareholder meetings. The results can be found in Table 6, Panel D. Since the Jaccard similarity measures the similarity between time t−1 and t, the analysis is limited to shareholder meetings with Q&A sessions in both years, comprising approximately 46.0% (1,008 firms) of the full sample. Overall, the results indicate that the information in the Q&A sessions does not significantly influence investor reactions, and the main findings remain robust even after controlling for Q&As.

Previous research has delved into linguistic complexity and its implications for disclosure informativeness or investor behavior (Li, 2008; Loughran and McDonald, 2014; Dyer et al., 2017). For instance, Miller (2010) demonstrates that investors exhibit reduced trading activity in response to more complex filings. I incorporate a control to assess the potential impact of linguistic complexity on the primary findings. Specifically, I utilize the Gunning Fog Index to gauge the complexity of shareholder meeting presentations. Table 6, Panel D showcases the primary results with the inclusion of the linguistic complexity control (*Fog_index*). Notably, the findings remain robust even after accounting for the complexity of the presentation content.

Glasserman and Mamaysky (2019) demonstrate that an increase in unusual news with a negative tone predicts heightened market volatility. It is possible that highly unusual news, rather than general firm information updates, are driving these results. In this context, "unusualness" or "entropy" refers to the degree to which information deviates from the norm or expectations cross-sectionally. While Glasserman and Mamaysky (2019) utilize historical deviations for each firm, I measure how unusual a firm's communication is

compared to other firms in the market for the same year. For example, during the pandemic, although many firms mention COVID-19, a firm not discussing the pandemic would be considered highly unusual in a cross-sectional context. Therefore, I control for cross-sectional entropy, as my main identification is within industry and year, making this variable more appropriate. The results, presented in Table 6, Panel D, remain consistent even when accounting for unusualness (entropy). This indicates that investors' positive reactions to higher similarity are driven more by their aversion to negative updates than by general discomfort with unexpected or atypical information.

6. Conclusion

Investors often struggle to absorb all available information, and past research indicates that firm disclosures are not fully incorporated into stock prices (You and Zhang, 2009; Cohen et al., 2020). Building on these insights, my study explores how the method of conveying information affects investor attention. Specifically, I compare oral speeches and written statements, represented respectively by shareholder meeting presentations and MD&As. Consistent with prior literature, I find that the market response to MD&As lacks significance, whereas shareholder meetings elicit a strong and significant market response. Investors exhibit a favorable reaction to minimal changes, as evidenced by their positive reaction to smaller deviations between prior and current years, highlighting the value of oral communication in capturing investor attention.

I also examine the impact of tone and sentiment updates in shareholder meetings and MD&As on investor attention. Results indicate a stronger market response to negatively toned updates during shareholder meetings, particularly reacting strongly to the

subtraction of the prior year's positive sentiment. Whereas the results consistently show that tone updates in the MD&As do not lead to investor reaction. Further analysis reveals that firms make the most significant changes by adding negatively toned information. The biggest change, negative tone addition, explains the negative reaction towards drastic alterations, as higher similarity measures correlate with positive stock returns, suggesting investors' aversion to negative updates. Additionally, the addition of uncertain words garners investor attention, highlighting the importance of clear communication in financial disclosures.

I further investigate the channel of the discrepancy in the impact of shareholder meetings and MD&A statements on market reactions. By focusing on the differential effects of in-person, virtual, and hybrid meeting formats, I test whether social interaction is a driving component of the effectiveness of oral communication. Leveraging the COVID-19 pandemic's unexpected shift to virtual settings, I compare these formats to explore the role of social interaction in conveying information. Findings reveal that investors pay more attention to negative information in in-person meetings, attributed to their stronger social interaction and real-time audience feedback. While hybrid meetings also feature an audience, their impact is less pronounced, likely due to reduced audience feedback and salience during the pandemic. These results underscore the essential role of social interaction in information disclosure, highlighting the effectiveness of oral conveyance.

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TABLE 1

Descriptive Statistics

This table reports summary statistics and t-tests. Panels A and B provide summary statistics for the textual measures, firm characteristics, and performance, including the number of observations, mean, standard deviation, minimum, 25 percentiles, median, and 75 percentiles. Panel A presents summary statistics for the shareholder meeting sample, and Panel B presents the MD&A sample. Similarity measures in Panel A and B compare firm reports (meetings) disclosed at time t to t+1. Panel C presents the summary statistics and t-test of the cross-sectional similarity between shareholder meetings and MD&A disclosed in the same year. Appendix Table A.2 provides year-by-year cross-sectional similarity and p-values. The data is from 2012 to 2020. Variables are defined in Appendix Table A.1.

Panel A: Shareholder Meeting Summary Statistic

Variable	N	mean	sd	min	q25	median	q75
Text Measures							
Jacc_simil$_{shmeeting}$	2318	0.4636	0.1499	0.1835	0.3690	0.4231	0.5094
Simple_simil$_{shmeeting}$	2318	0.5682	0.1521	0.2036	0.4695	0.5502	0.6425
Positive_update$_{shmeeting}$	2314	0.7638	0.9479	0.0000	0.3982	0.5556	0.7939
Negative_update$_{shmeeting}$	2318	0.6899	0.4755	0.0000	0.3750	0.6414	0.9167
Firm Characteristics							
Book Leverage	2310	0.2741	0.1984	0.0000	0.1178	0.2517	0.3922
log(Market to Book)	2209	1.1556	0.9453	-2.0699	0.5188	1.0336	1.6756
log(Asset)	2318	8.7488	2.0027	3.8139	7.3097	8.7562	10.1285
Firm Performance							
EBITDA_lAT	2283	0.1141	0.1534	-1.1629	0.0581	0.1214	0.1793
IB_lAT	2318	0.0366	0.1367	-1.2443	0.0093	0.0429	0.0911
OIBDP_lAT	2283	0.1141	0.1534	-1.1629	0.0581	0.1214	0.1793

Table 1 (continued)
Panel B: MD&A Summary Statistic

Variable	N	mean	sd	min	q25	median	q75
Text Measures							
Jacc_simil$_{mda}$	2721	0.7749	0.0884	0.3934	0.7330	0.7887	0.8336
Simple_simil$_{mda}$	2721	0.8922	0.0574	0.6659	0.8694	0.9050	0.9308
Positive_update$_{mda}$	2721	0.1347	0.0987	0.0105	0.0680	0.1091	0.1700
Negative_update$_{mda}$	2721	0.1331	0.0995	0.0140	0.0693	0.1099	0.1636
Firm Characteristics							
Book Leverage	2708	0.2478	0.1964	0.0000	0.0858	0.2260	0.3637
log(Market to Book)	2627	1.0804	0.9241	-2.0699	0.4603	0.9468	1.6054
log(Asset)	2721	8.1769	2.0110	1.8521	6.6749	8.1689	9.6232
Firm Performance							
EBITDA_lAT	2667	0.0984	0.2061	-2.7050	0.0523	0.1179	0.1785
IB_lAT	2721	0.0183	0.2042	-2.8654	0.0072	0.0401	0.0879
OIBDP_lAT	2667	0.0984	0.2061	-2.7050	0.0523	0.1179	0.1785

Panel C: Cross Sectional Average and t-test

Jaccard Similarity	Cosine Similarity	Correlation	Dice Similarity
0.145***	0.237***	0.232***	0.245***

TABLE 2

Information Updates and Investor Reaction

This table presents the stock price reaction measured by cumulative abnormal returns to the updated information in shareholder meetings or MD&As. Panel A presents regression results using general update measures, including Jaccard similarity and Simple similarity. Columns (1) through (4) report the cumulative abnormal returns (CAR) around the event date, while column (5) shows the results with the difference in CAR between the MD&A and the shareholder meeting. Panel B presents results using sentiment update measures. All similarity measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

Panel A: Market Reactions to Similarity Updates

	CAR (-3, +3)				
	Shareholder Meeting		MD&A		Diff
	(1)	(2)	(3)	(4)	(5)
$Jacc\_simil_{shmeeting}$	0.0146*				0.0398**
	(0.0075)				(0.0141)
$Simple\_simil_{shmeeting}$		0.0152**			
		(0.0051)			
$Jacc\_simil_{mda}$			-0.0307		0.0237
			(0.0302)		(0.0280)
$Simple\_simil_{mda}$				-0.0679	
				(0.0474)	
log(Asset)	-0.0016	-0.0015	0.0018	0.0016	-0.0016
	(0.0011)	(0.0011)	(0.0018)	(0.0018)	(0.0030)
Book Leverage	-0.0058	-0.0059	-0.0143	-0.0144	-0.0167
	(0.0190)	(0.0190)	(0.0154)	(0.0154)	(0.0302)
log(Market to Book)	-0.0023	-0.0023	0.0026	0.0026	-0.0047
	(0.0026)	(0.0026)	(0.0024)	(0.0024)	(0.0052)
log(Length)	0.0009	-0.0003	0.0012	0.0019	
	(0.0018)	(0.0019)	(0.0085)	(0.0091)	
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
R^2	0.1019	0.1022	0.0740	0.0739	0.0260
Observations	2,201	2,201	2,614	2,614	1,533

Table 2 (continued)
Panel B: Market Reactions to Sentiment Updates

	CAR (-3, +3)			
	Shareholder Meeting		MD&A	
	(1)	(2)	(3)	(4)
Positive_update$_{shmeeting}$	-0.0018			
	(0.0012)			
Negative_update$_{shmeeting}$	-0.0046*			
	(0.0014)			
Positive_add$_{shmeeting}$		-0.0036		
		(0.0093)		
Positive_sub$_{shmeeting}$		-0.0005		
		(0.0011)		
Negative_add$_{shmeeting}$		-0.0106		
		(0.0093)		
Negative_sub$_{shmeeting}$		-0.0042**		
		(0.0012)		
Positive_update$_{mda}$			0.0003	
			(0.0003)	
Negaitve_update$_{mda}$			0.0002	
			(0.0003)	
Positive_add$_{mda}$				0.0505
				(0.0316)
Positive_sub$_{mda}$				0.0204
				(0.0296)
Negative_add$_{mda}$				0.0323
				(0.0488)
Negative_sub$_{mda}$				0.0124
				(0.0275)
Firm Control	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.1035	0.1053	0.0213	0.0216
Observations	2,198	2,193	2,614	2,614

TABLE 3

Social Interaction and Investor Reaction

This table presents a comparison of stock market reactions to shareholder meetings that are in-person, virtual, and hybrid meetings. The I*n-person* variable is an indicator variable equal to one for in-person meeting mandatory states, while *COVID* is an indicator variable equal to one for the year 2020. Similarity measures compare shareholder meetings disclosed over time from time t to t+1. The sentiment variables are the current year's sentiment measures. Other variable definitions can be found in Appendix Table A.1. All regressions include firm and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

Shareholder Meeting				
	CAR (-3, +3)			
In-person	-0.2038***	-0.2350***	-0.2044***	-0.2037***
	(0.0133)	(0.0667)	(0.0136)	(0.0144)
In-person X COVID	-0.0342***	-0.6211**	-0.0344***	-0.0344***
	(0.0081)	(0.218)	(0.0084)	(0.0083)
Jacc_simil		-0.0096		
		(0.0137)		
In-person X Jacc_simil		0.0635		
		(0.1467)		
COVID X Jacc_simil		0.0321**		
		(0.0106)		
In-person X COVID X Jacc_simil		1.710**		
		(0.6094)		
Neg_sent				0.3245
				(0.2342)
Pos_sent				0.1291
				(0.1944)
log(Asset)	-0.0046	-0.0047	-0.0047	-0.0045
	(0.0060)	(0.0062)	(0.0065)	(0.0060)
Book Leverage	-0.0119	-0.0133	-0.0121	-0.0127
	(0.0210)	(0.0200)	(0.0227)	(0.0209)
log(Market to Book)	0.0002	0.0004	0.0007	0.0002
	(0.0040)	(0.0040)	(0.0044)	(0.0040)
log(Length)	-0.0008	-0.0017	-0.0005	-0.0019
	(0.0030)	(0.0035)	(0.0025)	(0.0033)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.3252	0.3264	0.332	0.3258
Observations	2,483	2,483	2,381	2,483

TABLE 4

Core Sentiment Alterations within Updates and Predictions across Updates

This table presents the core sentiment alterations made within the updated information in shareholder meetings or MD&As and predictions of whether the MD&A updates predict changes in shareholder meetings. Panel A presents the core sentiment changes, distinguishing between positive and negative tones, as well as additions and subtractions within annual updates. Panel B provides results for tests of whether MD&A updates predict shareholder meeting updates. Similarity measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

Panel A: Core Sentiment Alterations

	Jaccard similarity					
	Shareholder Meeting			MD&A		
	(1)	(2)	(3)	(4)	(5)	(6)
$Positive\_add_{shmeeting}$	-0.248***		-0.204***			
	(0.017)		(0.011)			
$Positive\_sub_{shmeeting}$	-0.072***		-0.054***			
	(0.007)		(0.005)			
$Negaitve\_add_{shmeeting}$		-0.309***	-0.280***			
		(0.028)	(0.021)			
$Negative\_sub_{shmeeting}$		-0.132***	-0.099***			
		(0.009)	(0.003)			
$Positive\_add_{mda}$				-0.745***		-0.486***
				(0.029)		(0.010)
$Positive\_sub_{mda}$				-0.576***		-0.370***
				(0.031)		(0.017)
$Negative\_add_{mda}$					-0.937***	-0.711***
					(0.050)	(0.048)
$Negaitve\_sub_{mda}$					-0.518***	-0.363***
					(0.025)	(0.022)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.664	0.692	0.778	0.451	0.518	0.651
Observations	2,192	2,200	2,192	2,614	2,614	2,614

Table 4 (continued)
Panel B: Predictions across Updates

	$Jacc\_simil_{shmeeting}$		$Simple\_simil_{shmeeting}$	
	(1)	(2)	(3)	(4)
MDA_simil	0.0128***		0.0135*	
	(0.0037)		(0.0063)	
$Positive\_sent_{mda}$		0.4005		-0.0293
		(0.6862)		(0.6507)
$Negative\_sent_{mda}$		-0.7856**		-0.6208**
		(0.3203)		(0.2549)
log(Asset)	-0.0094**	-0.0092**	-0.0157***	-0.0155***
	(0.0028)	(0.0028)	(0.0031)	(0.0032)
Book Leverage	-0.0117	-0.0114	0.0000	-0.0007
	(0.0246)	(0.0248)	(0.0266)	(0.0271)
log(Market to Book)	0.0087***	0.0081***	0.0071***	0.0068***
	(0.0025)	(0.0024)	(0.0019)	(0.0020)
log(Length)	-0.1139***	-0.1137***	-0.0351***	-0.0349***
	(0.0087)	(0.0090)	(0.0101)	(0.0103)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.5201	0.5197	0.4069	0.4059
Observations	1,757	1,757	1,757	1,757

TABLE 5

Information Updates and Firm Performance

This table presents the results testing whether the updated information contains essential information about the firm by examining whether the information changes predict future firm performance. Panel A presents results for shareholder meetings, and Panel B presents results for MD&As. Similarity and sentiment change measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ***, **, and * indicate significance at the 1, 5, and 10% levels.

Panel A: Shareholder Meeting Updates and Real Performance Prediction

	EBITDA/lAT	EBITDA/lAT	OIBD/lAT	OIBD/lAT
	(1)	(2)	(3)	(4)
lag $Jacc\_simil_{shmeeting}$	-0.1090***		-0.1090***	
	(0.0265)		(0.0265)	
lag $Simple\_simil_{shmeeting}$		-0.0954***		-0.0954***
		(0.0254)		(0.0254)
lag log(Asset)	-0.0195	-0.0233	-0.0195	-0.0233
	(0.0158)	(0.0158)	(0.0158)	(0.0158)
lag Book Leverage	-0.0001	-0.0001	-0.0001	-0.0001
	(0.000)	(0.000)	(0.000)	(0.000)
lag log(Market to Book)	0.0112***	0.0117***	0.0112***	0.0117***
	(0.0025)	(0.0027)	(0.0025)	(0.0027)
lag Pro_Mar	0.0015	0.0014	0.0015	0.0014
	(0.0011)	(0.0010)	(0.0011)	(0.0010)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.3531	0.3516	0.3531	0.3516
Observations	2,167	2,167	2,167	2,167

Table 5 (continued)
Panel B: MD&A Updates and Real Performance Prediction

	EBITDA/lAT	EBITDA/lAT	OIBD/lAT	OIBD/lAT
	(1)	(2)	(3)	(4)
Lag *Jacc_simil*$_{mda}$	0.1248***		0.1248***	
	(0.0370)		(0.0370)	
Lag *Simple_simil*$_{mda}$		0.2002**		0.2002**
		(0.0667)		(0.0667)
Lag log(Asset)	-0.0043	-0.0078	-0.0043	-0.0078
	(0.0191)	(0.0192)	(0.0191)	(0.0192)
Lag Book Leverage	-0.0002**	-0.0002**	-0.0002**	-0.0002**
	(0.000)	(0.000)	(0.000)	(0.000)
Lag log(Market to Book)	0.0193***	0.0186***	0.0193***	0.0186***
	(0.0037)	(0.0034)	(0.0037)	(0.0034)
Lag Pro_Mar	0.0003	0.0003	0.0003	0.0003
	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.0772	0.0770	0.0772	0.0770
Observations	2,629	2,628	2,629	2,628

TABLE 6

Robustness Tests with Different Similarity Measures

This table presents the robustness of the main results considering voting agendas, factors affecting investor attention, and other information in shareholder meeting presentations. Panels A and B control for variables related to the voting agendas: voting focus during the meeting, executive compensation, CEO turnover, and board turnover. Panel C controls for investor attention impacting factors: the crowd of the month and the percentage of institutional investors among all shareholders. Panel D controls other information in the shareholder meetings: Q&A section updates, linguistic complexity, and entropy. Panel A Column (1)-(2) and Panel C Column (3)-(4) excludes the pandemic year 2020. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ***, **, and * indicate significance at the 1, 5, and 10% levels.

Panel A: Voting Agendas and Investor Reaction

	CAR (-3, +3)			
	Voting Focus		Executive Compensation	
	(1)	(2)	(3)	(4)
$Jacc\_simil_{shmeeting}$	0.0217**		0.0224**	
	(0.0066)		(0.0080)	
$Simple\_simil_{shmeeting}$		0.0207***		0.0219**
		(0.0059)		(0.0075)
log(Vote)	-0.0033	-0.0036		
	(0.0023)	(0.0024)		
log(Avg_Exec_Comp)			0.0076	0.0077
			(0.0044)	(0.0044)
log(Asset)	-0.0006	-0.0004	-0.0051*	-0.0051*
	(0.0008)	(0.0008)	(0.0044)	(0.0024)
Book Leverage	-0.0206	-0.0205	0.0089	0.0088
	(0.0158)	(0.0157)	(0.0242)	(0.0242)
log(Market to Book)	-0.0002	-0.0002	-0.0063	-0.0062
	(0.0027)	(0.0027)	(0.0034)	(0.0034)
log(Length)	0.0026	0.0009	-0.0018	-0.0037
	(0.0025)	(0.0026)	(0.0021)	(0.0021)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.11422	0.11449	0.1629	0.1633
Observations	1,887	1,887	1,462	1,462

Table 6 (continued)

Panel B: Executive and Board Turnover and Investor Reaction

	CAR (-3, +3)			
	CEO Turnover		Board Turnover	
	(1)	(2)	(3)	(4)
Jacc_simil$_{shmeeting}$	0.0226**		0.0169*	
	(0.0082)		(0.0083)	
Simple_simil$_{shmeeting}$		0.0217**		0.0169**
		(0.0078)		(0.0061)
CEO_Turnover	-0.0009	-0.0009		
	(0.0069)	(0.0068)		
Board_Turnover			0.0008	0.0007
			(0.0035)	(0.0035)
log(Asset)	-0.0022*	-0.0021*	-0.0018	-0.0017
	(0.0010)	(0.0010)	(0.0011)	(0.0011)
Book Leverage	0.0076	0.0074	-0.0059	-0.0059
	(0.0231)	(0.0231)	(0.0175)	(0.0175)
log(Market to Book)	-0.0051	-0.0050	-0.0026	-0.0026
	(0.0035)	(0.0035)	(0.0030)	(0.0030)
log(Length)	-0.0021	-0.0040*	0.0016	0.0002
	(0.0020)	(0.0020)	(0.0020)	(0.0020)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.1603	0.1607	0.1047	0.1049
Observations	1,462	1,462	2,133	2,133

Table 6 (continued)

Panel C: Investor Attention and Reaction

	CAR (-3, +3)			
	Crowd Month		Institutional Ownership	
	(1)	(2)	(3)	(4)
Jacc_simil$_{shmeeting}$	0.0147*		0.0182*	
	(0.0074)		(0.0093)	
Simple_simil$_{shmeeting}$		0.0153**		0.0145*
		(0.0049)		(0.0068)
log(Crowd)	0.0003	0.0004		
	(0.0019)	(0.0019)		
% Institut_Own			0.0032	0.0036
			(0.0088)	(0.0087)
log(Asset)	-0.0016	-0.0015	-0.0002	-0.0002
	(0.0011)	(0.0011)	(0.0007)	(0.0008)
Book Leverage	-0.0058	-0.0059	-0.0217	-0.0217
	(0.0190)	(0.0190)	(0.0132)	(0.0132)
log(Market to Book)	-0.0023	-0.0023	0.0028	0.0028*
	(0.0026)	(0.0026)	(0.0015)	(0.0015)
log(Length)	0.0009	-0.0002	0.0024	0.0008
	(0.0018)	(0.0019)	(0.0017)	(0.0022)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.10193	0.10222	0.10075	0.10051
Observations	2,201	2,201	1,792	1,792

Table 6 (continued)

Panel D: Other Information and Investor Reaction

CAR (-3, +3)						
	Q&A Section		Linguistic Complexity		Entropy	
	(1)	(2)	(3)	(4)	(5)	(6)
Jacc_simil$_{shmeeting}$	0.0380**		0.0158*		0.0212**	
	(0.0142)		(0.0080)		(0.0069)	
Simple_simil$_{shmeeting}$		0.0182		0.0166**		0.0195***
		(0.0129)		(0.0054)		(0.0056)
Jacc_simil_QNA	-0.0049	-0.0005				
	(0.0204)	(0.0203)				
Fog_index			-0.0005	-0.0005		
			(0.0006)	(0.0006)		
Entropy					-0.3041	-0.4524
					(0.3239)	(0.3075)
log(Asset)	-0.0023*	-0.0024*	-0.0017	-0.0016	-0.0008	-0.0007
	(0.0011)	(0.0012)	(0.0011)	(0.0011)	(0.0010)	(0.0010)
Book Leverage	-0.0271	-0.0275	-0.0054	-0.0055	-0.0203	-0.0204
	(0.0189)	(0.0191)	(0.0190)	(0.0190)	(0.0146)	(0.0146)
log(Market to Book)	-0.0026	-0.0025	-0.0023	-0.0023	0.00	0.00
	(0.0024)	(0.0024)	(0.0026)	(0.0026)	(0.0028)	(0.0028)
log(Length)	0.0005	-0.0026	0.0017	0.0005	0.0008	-0.0018
	(0.0028)	(0.0034)	(0.0019)	(0.0020)	(0.0021)	(0.0027)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.2245	0.2219	0.1014	0.10175	0.11299	0.11307
Observations	1,008	1,008	2,197	2,197	1,915	1,915

Appendix

TABLE A.1

Variable Description

Variable	Description
Similarity	
$Jacc\_simil_{shmeeting}$ ($Jacc\_simil_{mda}$)	The Jaccard similarity variable quantifies the similarity between sets of elements within the documents. It is calculated as the size of the intersection of the sets divided by the size of their union, ranging from 0 to 1, where 1 indicates exact similarity
$Cosine\_simil_{shmeeting}$ $Cosine\_simil_{mda}$	The cosine similarity variable represents a quantitative measure of similarity between two documents. It is calculated as the cosine of the angle between two vectors ranging from -1 to 1, where a value of 1 indicates exact similarity.
$Simple\_simil_{shmeeting}$ ($Simple\_simil_{mda}$)	The sum of the changes, additions, and deletions between two contents over the average content length.
$Simple\_update_{shmeeting}$ ($Simple\_update_{mda}$)	The sum of the changes, additions, and deletions between two contents over the current content length.
$Positive\_update_{shmeeting}$ $(Positive\_update_{mda})$	The positive sentiment of the changes, additions, and deletions between two documents, divided by the positive sentiment.
$Negative\_update_{shmeeting}$ $(Negative\_update_{mda})$	The negative sentiment of the changes, additions, and deletions between two documents, divided by the negative sentiment.
log(Length)	Log of the document length
Firm	
CAR (-3, +3)	Market-adjusted cumulative abnormal return for a daily window (-3, +3).
Book leverage	Long term debt/total asset
log(Market to Book)	Market value of equity/book value of equity
log(asset)	Log of total asset
Performance	
Ebitda/lat	Earnings before interest, taxes, depreciation, and amortization / lagged total assets
Ib/lat	Income before extraordinary items / lagged total assets
OIBDP/lat	Operating Income Before Depreciation / lagged total assets
Voting Agendas	
log(Vote)	The log of the number of times voting-related keywords are mentioned during the meeting
log(Avg_Exec_Comp)	The log of the average compensation received by executives.
CEO_Turnover	An indicator variable equals one for the year and the following year when the CEO was replaced

Board_Turnover	An indicator variable equals one for the year when the at least one of the board members were replaced
Investor Attention	
log(Crowd)	The log of the number of filings or shareholder meetings within the same month
% Institut_Own	The ratio of institutional ownership over full firm ownership
Other Information	
Jacc_simil_QNA	The Jaccard similarity measure for shareholder meeting Q&A sessions
Fog_index	The linguistic complexity measure using the Fog Index
Entropy	The entropy measure comparing among other firms in the current year

TABLE A.2

Annual Cross Sectional Similarity Univariate Results

This table presents the summary statistics and t-test of the cross-sectional similarity between shareholder meetings, and MD&A disclosed in the same year, including the number of observations and mean for each year. The table includes p-values for the t-tests examining whether the mean for each year is significantly different from zero.

		Jaccard similarity		Cosine similarity	
Year	N	Mean	p-value	Mean	p-value
2011	177	0.1653	<0.001	0.2820	<0.001
2012	247	0.1586	<0.001	0.2760	<0.001
2013	255	0.1587	<0.001	0.2705	<0.001
2014	299	0.1499	<0.001	0.2505	<0.001
2015	324	0.1415	<0.001	0.2360	<0.001
2016	336	0.1352	<0.001	0.2228	<0.001
2017	350	0.1270	<0.001	0.2127	<0.001
2018	331	0.1231	<0.001	0.2045	<0.001
2019	296	0.1249	<0.001	0.2061	<0.001
2020	149	0.1193	<0.001	0.1957	<0.001

TABLE A.3

Univariate and Different Similarity Measure Results

This table presents the univariate results and the Table 2 results with different similarity measures. Panel A presents the mean and median of the market-adjusted cumulative abnormal returns around the shareholder meetings and 10-K release event dates for different windows. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels for the t-test (sign-ranked test), representing the mean (median) being significantly different from zero. Panel B presents Table 2 results with different similarity measures as robustness and includes industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

Panel A: Stock Price Univariate Results

	Shareholder Meeting Return (N=2317)		MD&A Return (N=2721)	
Window	Mean	Median	Mean	Median
(-5, +5)	0.37%**	0.34%***	0.23%	0.07%
(-3, +3)	0.29%**	0.21%**	0.05%	-0.02%
(-1, +1)	0.13%*	-0.01%	0.04%	0.01%

Panel B: Main Regression with Different Similarity Measures

	CAR (-3, +3)			
	Shareholder Meeting		MD&A	
	(1)	(2)	(3)	(4)
Cosine_simil$_{shmeeting}$	0.0133			
	(0.0091)			
Simple_update$_{shmeeting}$		0.0373*		
		(0.0191)		
Cosine_simil$_{mda}$			-0.1052	
			(0.0576)	
Simple_update$_{mda}$				-0.0926
				(0.0661)
log(Asset)	-0.0016	-0.0015	0.0018	0.0016
	(0.0011)	(0.0011)	(0.0018)	(0.0018)
Book Leverage	-0.006	-0.0063	-0.0149	-0.0144
	(0.0190)	(0.0190)	(0.0154)	(0.0154)
log(Market to Book)	-0.0023	-0.0023	0.0024	0.0026
	(0.0026)	(0.0026)	(0.0024)	(0.0024)
log(Length)	-0.0005	-0.0012	-0.0014	0.0019
	(0.0019)	(0.0021)	(0.0073)	(0.0091)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.1015	0.10175	0.07448	0.0739
Observations	2,201	2,201	2,614	2,614

TABLE A.4

Controlling for Prior Year and Current Year Sentiment

This table presents the robustness of the main results of Table 2 by controlling for the prior year's sentiments. The measure *Lag_Positive_sent (Lag_Negative_sent)* is the prior year's positive (negative) tone count over the total length of the shareholder meeting or MD&A. The measure *Positive_sent (Negative_sent)* is the current year's positive (negative) tone count over the total length of the shareholder meeting or MD&A. Panel A presents results controlling for lagged sentiment for shareholder meetings and MD&As. The measure of Panel B presents results controlling for current sentiment for shareholder meetings and MD&As. Similarity and sentiment change measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

Panel A: Controlling for Prior Year Sentiment

	CAR (-3, +3)			
	Shareholder Meeting		MD&A	
	(1)	(2)	(3)	(4)
$Jacc\_simil_{shmeeting}$	0.0168***			
	(0.0048)			
$Simple\_simil_{shmeeting}$		0.0179***		
		(0.0033)		
$Jacc\_simil_{mda}$			-0.0226	
			(0.0288)	
$Simple\_simil_{mda}$				-0.0522
				(0.0424)
Lag_Positive_sent	0.0657	0.0832	0.2077	0.2027
	(0.1324)	(0.1413)	(0.3946)	(0.3974)
Lag_Negative_sent	-0.023	-0.0195	0.2312	0.2235
	(0.1049)	(0.1056)	(0.1577)	(0.1575)
log(Asset)	-0.0016	-0.0015	0.0014	0.0015
	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Book Leverage	-0.0056	-0.0056	-0.0171*	-0.0168
	(0.0192)	(0.0192)	(0.0087)	(0.0089)
log(Market to Book)	-0.0023	-0.0023	0.0038**	0.0038**
	(0.0026)	(0.0026)	(0.0015)	(0.0015)
log(Length)	0.0007	-0.0007	-0.0027	-0.0007
	(0.0018)	(0.0017)	(0.0048)	(0.0060)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.10205	0.10241	0.02019	0.02073
Observations	2,200	2,200	2,614	2,614

Table A.4 (continued)

Panel B: Controlling for Current Year Sentiment

	CAR (-3, +3)			
	Shareholder Meeting		MD&A	
	(1)	(2)	(3)	(4)
Jacc_simil$_{shmeeting}$	0.0167**			
	(0.0068)			
Simple_simil$_{shmeeting}$		0.0197***		
		(0.0053)		
Jacc_simil$_{mda}$			-0.0222	
			(0.0286)	
Simple_simil$_{mda}$				-0.0517
				(0.0419)
Positive_sent	0.1219	0.1705	-0.0880	-0.1020
	(0.1306)	(0.1443)	(0.2850)	(0.2913)
Negative_sent	0.4981***	0.5166***	0.1779	0.1594
	(0.1422)	(0.1416)	(0.2562)	(0.2549)
log(Asset)	-0.0019	-0.0018	0.0014	0.0015
	(0.0012)	(0.0012)	(0.0011)	(0.0011)
Book Leverage	-0.0064	-0.0064	-0.0173*	-0.0170*
	(0.0185)	(0.0185)	(0.0086)	(0.0088)
log(Market to Book)	-0.0022	-0.0022	0.0040**	0.0040**
	(0.0026)	(0.0026)	(0.0015)	(0.0016)
log(Length)	0.0002	-0.0014	-0.0027	-0.0006
	(0.0021)	(0.0022)	(0.0051)	(0.0063)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.1038	0.1044	0.0198	0.0203
Observations	2,201	2,201	2,614	2,614

TABLE A.5

Additional Robustness Varying Identification and Textual Methods

This table presents the robustness of the main results by differently identifying the presentations following Brochet et al. (2023) and following a different text cleaning procedure. Panel A provides shareholder meeting results identifying presentations following Brochet et al. (2023). Panel B presents the robustness of the main results by stemming the tokens. Similarity and sentiment change measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

Panel A: Business Presentation Alternative Identification

	CAR (-3, +3)			
	Shareholder Meeting			
	(1)	(2)	(3)	(4)
$Jacc\_simil_{shmeeting}$	0.0134*			
	(0.0069)			
$Cosine\_simil_{shmeeting}$		0.015		
		(0.0093)		
$Simple\_simil_{shmeeting}$			0.0140***	
			(0.0038)	
$Simple\_update_{shmeeting}$				0.0394*
				(0.0171)
log(Asset)	-0.0023*	-0.0023*	-0.0022*	-0.0022*
	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Book Leverage	0.0029	0.0028	0.0029	0.0026
	(0.0198)	(0.0197)	(0.0198)	(0.0199)
log(Market to Book)	-0.0023	-0.0022	-0.0022	-0.0022
	(0.0026)	(0.0026)	(0.0026)	(0.0026)
log(Length)	0.0032	0.002	0.0022	0.0013
	(0.0023)	(0.0023)	(0.0024)	(0.0024)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R2	0.1019	0.1017	0.1022	0.1020
Observations	2,125	2,125	2,125	2,125

Table A.5 (continued)

Panel B: Results After the Stemming Procedure

CAR (-3, +3)				
	Shareholder Meeting		MD&A	
	(1)	(2)	(3)	(4)
Jacc_simil$_{shmeeting}$	0.0137			
	(0.0083)			
Simple_simil$_{shmeeting}$		0.0307*		
		(0.0143)		
Jacc_simil$_{mda}$			-0.027	
			(0.0290)	
Simple_simil$_{mda}$				-0.0606
				(0.0430)
log(Asset)	-0.0003	-0.0003	0.0014	0.0015
	(0.0008)	(0.0008)	(0.0011)	(0.0011)
Book Leverage	-0.009	-0.0091	-0.0171*	-0.0168*
	(0.0116)	(0.0115)	(0.0087)	(0.0089)
Log(Market to Book)	-0.0005	-0.0005	0.0038**	0.0037**
	(0.0018)	(0.0018)	(0.0015)	(0.0015)
log(Length)	0.0001	-0.0016	-0.002	0.0005
	(0.0026)	(0.0022)	(0.0045)	(0.0059)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.0161	0.0160	0.0196	0.0202
Observations	2,241	2,241	2,614	2,614

TABLE A.6

Removing and Including COVID-19 Period

This table presents the robustness of the main results by removing shareholder meetings or filings after March 2020, when the COVID-19 pandemic happened. Panel A presents results removing observations after March 2020 for shareholder meetings and MD&As. Panel B presents the robustness of the results in Table 6 by including the COVID-19 period. The measure *log(Vote)* is the log of the number of times voting-related keywords are mentioned during the meeting. The measure *% Institut_Own* is the ratio of institutional ownership over full firm ownership. Similarity and sentiment change measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

Panel A: Removing COVID-19 Period

	CAR (-3, +3)			
	Shareholder Meeting		MD&A	
	(1)	(2)	(3)	(4)
$Jacc\_simil_{shmeeting}$	0.0186**			
	(0.0065)			
$Simple\_simil_{shmeeting}$		0.0162**		
		(0.0055)		
$Jacc\_simil_{mda}$			-0.0231	
			(0.0312)	
$Simple\_simil_{mda}$				-0.0563
				(0.0493)
log(Asset)	-0.0007	-0.0006	0.0016	0.0017
	(0.0009)	(0.0009)	(0.0017)	(0.0017)
Book Leverage	-0.0204	-0.0205	-0.016	-0.016
	(0.0146)	(0.0146)	(0.0170)	(0.0170)
Log(Market to Book)	0.000	0.000	0.0028	0.0029
	(0.0027)	(0.0027)	(0.0026)	(0.0026)
log(Length)	0.0015	0.0000	-0.0018	0.0003
	(0.0019)	(0.0022)	(0.0072)	(0.0083)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.1134	0.1133	0.07331	0.07388
Observations	1,919	1,919	2,590	2,590

Table A.6 (continued)

Panel B: Including COVID-19 Period for Voting Focus and Institutional Ownership Results

	CAR (-3, +3)			
	Voting Focus		Institutional Ownership	
	(1)	(2)	(3)	(4)
Jacc_simil$_{shmeeting}$	0.0157		0.0133	
	(0.0090)		(0.0092)	
Simple_simil$_{shmeeting}$		0.0179**		0.0136**
		(0.0062)		(0.0057)
log(Vote)	-0.0011	-0.0016		
	(0.0027)	(0.0027)		
% Institut_Own			0.0103	0.0104
			(0.0099)	(0.0098)
log(Asset)	-0.0015	-0.0014	-0.0012	-0.0012
	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Book Leverage	-0.0052	-0.0051	-0.005	-0.005
	(0.0198)	(0.0198)	(0.0197)	(0.0197)
Log(Market to Book)	-0.0024	-0.0024	-0.0005	-0.0005
	(0.0025)	(0.0025)	(0.0025)	(0.0025)
log(Length)	0.0016	0.0005	0.0018	0.0008
	(0.0024)	(0.0022)	(0.0015)	(0.0017)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.10256	0.10303	0.09285	0.09306
Observations	2,168	2,168	2,069	2,069

TABLE A.7

Crowded Months and Investor Reaction for MD&As

This table presents the robustness of the main results by controlling for how crowded the month is with other filings or shareholder meetings and the proportion of institutional owners among firm shareholders. The measure *log(Crowd)* is the log of the number of filings or shareholder meetings within the same month. Similarity and sentiment change measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

CAR (-3, +3)				
	MD&A			
	(1)	(2)	(3)	(4)
$Jacc\_simil_{mda}$	-0.0307			
	(0.0300)			
$Cosine\_simil_{mda}$		-0.1018		
		(0.0590)		
$Simple\_simil_{mda}$			-0.0666	
			(0.0472)	
$Simple\_update_{mda}$				-0.0921
				(0.0653)
log(Crowd)	-0.0041	-0.004	-0.004	-0.0041
	(0.0029)	(0.0029)	(0.0029)	(0.0029)
log(Asset)	0.0018	0.0019	0.0019	0.0017
	(0.0018)	(0.0018)	(0.0018)	(0.0018)
Book Leverage	-0.0131	-0.0136	-0.0131	-0.0132
	(0.0156)	(0.0156)	(0.0155)	(0.0155)
log(Market to Book)	0.0028	0.0027	0.0029	0.0029
	(0.0025)	(0.0025)	(0.0025)	(0.0025)
log(Length)	-0.0009	-0.001	0.0016	0.0023
	(0.0070)	(0.0071)	(0.0083)	(0.0089)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R2	0.07561	0.07656	0.0762	0.0761
Observations	2,614	2,614	2,614	2,614

TABLE A.8

Controlling for Governance

This table presents the robustness of the main results by controlling for how crowded the month is with other filings or shareholder meetings and the proportion of institutional owners among firm shareholders. The measure *% Ind_Director and % Busy_Director* is the percentage of the independent directors and busy directors on the board. Similarity and sentiment change measures compare firm reports (meetings) disclosed over time from time t to t+1. Other variable definitions can be found in Appendix Table A.1. All regressions include industry and year fixed effects. Standard errors are clustered at the year level and reported in the parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels.

CAR (-3, +3)				
	Shareholder Meeting			
	(1)	(2)	(3)	(4)
$Jacc\_simil_{shmeeting}$	0.0174*			
	(0.0081)			
$Cosine\_simil_{shmeeting}$		0.0167		
		(0.0102)		
$Simple\_simil_{shmeeting}$			0.0175**	
			(0.0058)	
$Simple\_update_{shmeeting}$				0.0437*
				(0.0211)
% Ind_Director	0.0036	0.0035	0.0038	0.0035
	(0.0046)	(0.0046)	(0.0045)	(0.0045)
% Busy_Director	0.0037	0.0028	0.0040	0.0033
	(0.0147)	(0.0147)	(0.0148)	(0.0146)
log(Asset)	-0.0019	-0.0020	-0.0018	-0.0018
	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Book Leverage	-0.0060	-0.0063	-0.0061	-0.0065
	(0.0174)	(0.0174)	(0.0174)	(0.0176)
log(Market to Book)	-0.0026	-0.0026	-0.0026	-0.0025
	(0.0030)	(0.0030)	(0.0030)	(0.0030)
log(Length)	0.0015	-0.0002	0.0000	-0.0010
	(0.0020)	(0.0020)	(0.0020)	(0.0022)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R2	0.1049	0.1044	0.1052	0.1046
Observations	2,133	2,133	2,133	2,133

CHAPTER 2

Corporate Culture Messaging and National Politics

Abstract

We examine how firms adjust their corporate culture messaging in response to U.S. political shifts, using key cultural values quantified from earnings calls. During the Obama and Trump presidential administrations, which occurred during periods of high polarization, firms reduced all corporate culture messaging and eliminated their prior emphases along the dimension of presidential political alignment. This trend persists with exogenous shocks to polarization. Politically misaligned firms reduce cultural messaging on innovation, quality, and respect. These changes reflect strategic communication, given differences in related corporate outcomes. The findings highlight how cultural messaging varies in relation to political context.

1. Introduction

The United States has witnessed a surge in political polarization and party disparities since 2010, particularly during presidential elections.[16] This trend is reflected in people gravitating toward like-minded individuals while distancing themselves from opposing views. Political beliefs affect workplace decisions through perceptions of economic conditions (Campbell et al., 1960). Previous studies highlight this influence in various contexts: analysts and CEOs publish more optimistic forecasts and disclosures under politically aligned presidencies, executives leave jobs over political mismatches, and judges impose harsher sentences on politically misaligned cases (Fos, Kempf, and Tsoutsoura, 2021; Kempf and Tsoutsoura, 2021; Gormley, Kaviani, and Maleki, 2025; Arikan et al., 2023). Thus, understanding how firms adapt their corporate culture messaging in response to national political shifts is essential given its impact on firm productivity and value.

Guiso, Sapienza, and Zingales (2015) identify key corporate culture values from firms' websites: integrity, teamwork, innovation, quality, and respect.[17] Li et al. (2021) quantify these values using earnings call language and link cultural messaging with outcomes and firm performance. We explore how political changes affect corporate culture messaging through presidential administrations and periods of heightened polarization

[16] Gentzkow (2016) and Barrios and Hochberg (2021), among others, examine the post-2010 increase in U.S. polarization. Party identification is more stable than the principles of equal opportunity, limited government, traditional family values, and moral tolerance (Goren 2005). It is a form of social identification through an emotional connection with a political party (Green, Palmquist, and Schickler 2002).

[17] Other core values are safety, community, communication, and hard work. Corporate culture is also identified in surveys (e.g., O'Reilly, Chatman, and Caldwell 1991; Chatman et al. 2014) and examined with outcomes by O'Reilly (1989), Kreps (1990), Edmans (2011), Li et al. (2021), Grennan (2022a, b), and Graham et al. (2022).

using Li et al. (2021) five corporate culture scores, along with overall culture scores and sentiment. The nationwide political shifts serve as moments of informational events, revealing shifts in stakeholder preferences. We also examine how firms' cultural messaging varies not only in response to political shifts but also in accordance with their political alignment—whether likely-Democrat and likely-Republican firms adjust their messaging differently under different presidencies.

Corporate culture evolves due to internal factors or external societal shocks and pressures (Gorton and Zentefis, 2022; Grennan and Li, 2023).[18] We hypothesize that executives strategically modify corporate culture messaging in response to external shocks, particularly shifts in political dynamics. Politically aligned executives may reinforce the prevailing societal culture in their corporate messaging, either to express pride in the dominant political climate or to mitigate potential backlash from opposing political figures. Along with political alignment, we examine how political polarization shapes corporate culture messaging. We posit that when polarization increases, executives refocus their messaging toward products while scaling back any official communication that may signal political alignment. As one executive put it: "The easiest thing to do is just to stay out of the conversation" (Maurer, 2023).

For more specific cultural values, we hypothesize that following political alignment shifts, executives are likely to alter messaging on innovation, quality, and respect.[19] Politically aligned executives with greater optimism and a positive economic

[18] Internal factors that can change corporate culture include new executives, updated governance, improved board diversity, and different shareholder or executive ownership (Guiso et al., 2015; Graham et al., 2022; Grennan, 2022a; Cai, Grennan, and Qiu, 2024).

[19] Alternatively, some cultural messaging may remain stable despite political changes. For example, "integrity," related to ethics and fraud, is stable or "sticky" over time as unethical culture persists (Nunn and

outlook are more likely to emphasize "*innovation"* as part of broader investment increases (Rice, 2024). In contrast, politically misaligned executives, perceiving economic uncertainty and cost-cutting initiatives, which often lead to lower quality, tend to downplay "*quality"* cultural messaging to deflect attention away from underlying problems. Moreover, to navigate the political climate, firms started "*green-hushing"* in 2023 as they minimized discussions of partisan issues related to climate change and diversity, equity, and inclusion (DEI).[20] Since the cultural value of "respect" is closely tied to diversity and inclusion, we posit that executives may similarly engage in "*culture-hushing"* and avoid highlighting "*respect."*

To empirically examine the relationship between political shifts and corporate culture messaging, we analyze how presidential elections, rising polarization, and firms' political alignment are statistically associated with corporate messaging patterns. Following previous research that treats U.S. elections as political shocks (e.g., Jens, 2017; Dahl, Runjing, and Mullins, 2022; Kempf et al., 2023), we consider the elections from 2002 to 2021 to examine whether firms alter their corporate culture messaging in response to evolving political sentiment. We also examine corporate culture messaging in the context of rising political polarization using Azzimonti's (2018) Partisan Conflict Index (PCI), which increased beginning in 2010.[21] To identify political alignment during

Wantchekon, 2011; Alesina, Giuliano, and Nunn, 2013; Ellahie, Tahoun, and Tuna, 2017; Gorton, Grennan, and Zentefis, 2022).

[20] Rajan (2025) asks, "Were statements by companies acknowledging their social responsibility ever anything more than performative political theater?" and points to firms quickly abandoning DEI pledges in 2025 along the growing political opposition. For example, expecting political criticism, the U.S. largest banks barely addressed DEI in 2025 but, in the prior year, "touted firm culture that supported DEI initiatives." (Andriotis and Heeb, 2025).

[21] PCI is in the Appendix, Figure A.1. We use the terms "partisan conflict" and "polarization" interchangeably given our longer-term PCI comparisons (e.g., before and after 2010), as Azzimonti (2018) shows long-term alignment.

presidencies, we classify firms as likely-Democrat and likely-Republican using the political leaning of the headquarters' location, following Dahl et al. (2022) and Meeuwis et al. (2022).[22] We also examine firms in battleground states, as these firms are exposed to more balanced views (Gulen and Myers, 2024).

We find that firms intensify their corporate culture messaging when politically aligned with the presidential party—likely-Republican firms emphasizing innovation, quality, respect, and overall corporate culture more during George W. Bush's (Republican) term than Barack Obama's (Democrat) term when compared with likely-Democrat firms. This is consistent with our expectation of politically misaligned firms reducing cultural messaging on innovation, quality, and respect. These results suggest that firms' corporate culture messaging changes with political shifts.

However, our findings indicate that after the 2010 increase in political polarization, both likely-Democrat and likely-Republican firms significantly reduced all corporate culture messaging while adopting a more positive tone. This reduction in corporate culture messaging during periods of increased polarization aligns with our expectations. Moreover, both likely-Democrat and likely-Republican firms conveyed similar messages about their corporate culture and adjusted sentiment similarly during the highly polarized presidency of Barack Obama and the first term of Donald Trump. Using a difference-in-differences framework, we document that during periods of increased political polarization, likely-Democrat firms exhibit relatively smaller reductions in cultural messaging on innovation, quality, respect, and overall culture. For example, likely-Democrat firms decreased

[22] This method, allowing a larger sample, yields similar results to donation-based studies (Knill et al., 2022).

innovation-related language in earnings calls by 3%, while likely-Republican firms reduced it by 10%.[23] In short, as polarization rises, firms talk less about corporate culture and converge in their culture messaging. In contrast, firms in battleground states, being exposed to more balanced political views, maintained consistent corporate culture messaging and sentiment before and after 2010. This lack of cultural messaging alterations by firms headquartered in more politically balanced areas reaffirms the importance of political shifts for corporate culture messaging for firms headquartered in areas with more distinct political leaning.

Our findings show that firms change their cultural messaging in response to political shifts, including presidential elections and polarization. While ruling out endogeneity is difficult, reverse causality is less likely in our sample (e.g., firms' discussions of cultural values, such as teamwork and quality, are unlikely to escalate national polarization), and we aim to further reduce such concerns with four tests. We verify that the parallel trend assumption holds in periods of lower polarization. We also find consistent results using the PCI directly. In addition, to better isolate the impact of political change, we analyze two distinct subsamples: firms exposed only to national political shifts and those also affected by local changes, such as county voting patterns or headquarters relocations. Our results persist in both subsamples. Finally, we examine exogenous geographic shocks to polarization, including areas that experienced a significant increase in the Republican vote share in the 2016 election, following Dahl et al. (2022), proxying for areas subject to the China shock (e.g., Autor et al., 2020) and areas that

[23] Likely-Democrat (likely-Republican) firms message less on innovation after 2010 by 0.141 (0.481) units (innovation word count/document length). Given innovation messaging mean of 4.879: -0.141/4.879 = -3% (lower by 3%) and -0.481/4.879 = -10% (lower by 10%).

experienced significant changes in media partisanship after the entry of the Sinclair Broadcast Group (e.g., Martin and McCrain, 2019). Across all tests, firms message less about corporate culture when polarization increases.

Next, we connect the corporate outcomes with corporate culture messaging to assess whether firms "walk the talk" or communicate strategically. Following Li et al. (2021), we proxy integrity by restatements, teamwork by joint venture and alliance formation, innovation by patents, quality by best employer listing, and respect by top brand listing. Consistent with Li et al. (2021), we find a significant cross-sectional relationship between corporate culture messaging and its corresponding outcomes. Within the political dimension—similar to Mian, Sufi, and Khoshkhou (2023) and Cai et al. (2024), who document discrepancies between messaging and real outcomes—we find that firms engage in strategic communication when adjusting corporate culture messaging in response to political misalignment, as there are no corresponding changes in corporate outcomes in the near future. While our main finding is that firms strategically communicate, we also provide baseline comparisons: in the same industry, likely-Democrat firms message more about innovation, and likely-Republican firms message more about quality and respect.

Our baseline regressions incorporate two-way fixed effects at the firm and year levels and the difference-in-differences setting to examine the changes in the language describing corporate culture within the firm given nationwide political changes, including presidential elections and polarization changes. Our findings are robust to excluding the years of the financial crisis and the COVID-19 pandemic, including firms that span all presidencies, and examining firms with geographically concentrated and dispersed operations. Moreover, we consider another important medium of firms' communication—

shareholder meetings—in addition to earnings calls. By extending corporate culture dictionaries to shareholder meeting transcripts, we find that corporate culture messaging varies with political factors.

We contribute to the literature on corporate culture (Guiso et al., 2015; Graham et al., 2022; Li et al., 2022; Grennan and Li, 2023). Culture, which represents a fundamental aspect of a firm, is challenging to measure quantitatively. However, recent advances in natural language processing have allowed researchers to assess the dynamics of culture. Grennan and Li (2023) call for the first steps in this new research agenda to isolate "events that serve as catalysts for cultural change." Our study closely aligns with theirs, as our findings highlight the importance of political shifts, including presidencies and polarization, for corporate culture aspects emphasized by firms. As such, we add a perspective on corporate culture messaging and strategic communication. We also contribute to the literature on political alignment, which shows that executives' partisan perceptions influence corporate tangible outcomes, such as investment and leverage (Knill et al., 2022; Rice, 2024). Unlike these studies, we focus on intangible outcomes and show that political alignment and polarization are also linked to corporate culture messaging. In addition, we contribute to the literature examining firms' "political hedging," in which firms choose to reduce discussions of polarizing issues and balance their political donations (Christensen et al., 2022; Mkrtchyan, Sandvik, and Zhu, 2024). We find that during periods of heightened polarization, firms exercise caution and strategically reduce corporate culture discussion.

2. Background and Related Literature

In this section, we summarize key related work, beginning with polarization and political alignment. Political beliefs shape how individuals interpret events: Republicans and Democrats often perceive the same political developments differently, leading to divergent expectations of future economic conditions. Surveys show that Republicans become more optimistic about the U.S. economy after a Republican president's election, while Democrats become more pessimistic.[24] These differing economic outlooks influence tangible decisions: politically aligned individuals have higher birth rates, better credit ratings, larger portfolio equity allocations, more optimistic earnings guidance, lower accounting conservatism, increased investment, and greater perceived leverage (Kempf and Tsoutsoura, 2021; Dahl et al., 2022; Knill et al., 2022; Meeuwis et al. 2022; Arikan et al., 2023; Rice, 2024).[25]

Beyond political shifts from presidential elections, we examine shifts in polarization. Increased polarization influences voting (DellaVigna and Kaplan, 2007; Martin and McCrain, 2019), and trading, as Pan et al. (2024) document a positive relation between the equity portfolio distance along the environmental and social preferences and the political distance among U.S. counties. Azzimonti's (2018) PCI shows a sharp increase

[24] While beliefs about and perceptions of future economic outcomes differ by political affiliation, Blinder and Watson (2016) show that actual U.S. economic performance is stronger under Democratic presidencies.
[25] Dahl et al. (2022) document fewer births in areas politically misaligned with the president. Kempf and Tsoutsoura (2021) show that analysts who are Republican (Democrat) assign higher (lower) credit ratings to the same firm during Republican presidencies. Meeuwis et al. (2022) show that likely-Republican (likely-Democrat) investors shifted portfolio allocations to equity (safer assets) after the 2016 U.S. presidential election with a Republican winner. In addition, several studies document in-group bias: executives are more likely to leave when their political views differ from those of others in the C-suite (Fos et al. 2021), fund managers allocate funds to firms managed by executives or directors who support the same political party (Wintoki and Xi 2020), home sales increase when a person from an opposite political party becomes a neighbor (McCartney, Orellana-Li, and Zhang 2024), and peer-to-peer lenders from conservative states lend less to borrowers from liberal states but not vice versa (Wang and Overby 2022).

in U.S. political polarization following the 2008 financial crisis. Economic hardship has fueled polarization and far-right support in various contexts (Aldasoro et al., 2022; Gyöngyösi and Verner, 2022). Other contributing factors include globalization, automation, immigration, disasters, and media bias (Guriev and Papaioannou, 2022). Autor et al. (2020) show that the China shock, which displaced U.S. manufacturing jobs, intensified polarization in affected regions. Dahl et al. (2022) apply this framework to the 2016 U.S. presidential election, identifying areas with the largest rightward vote shifts as experiencing a polarization shock. Polarization also rises in regions where the local media covers more national news or provides a right-wing slant (Martin and McCrain, 2019; Dasgupta et al., 2021; Knill et al., 2022; Pan et al., 2024). The PCI measure and geographic shocks allow us to gain useful insights into how cultural messaging evolves in response to polarization.

As rising polarization is linked to greater political risk, another strand of related literature examines how firms mitigate this risk. Kim et al., (2019) find that firms hedge against legislative uncertainty and enhance growth opportunities by balancing political donations across Republican and Democratic candidates. This "political hedging" reduces firm risk, as reflected in lower earnings and return volatility (Christensen et al., 2022). Moreover, firms facing heightened political risk increase political donations, lobbying, and cash holdings while cutting back on hiring and tangible investment (Hassan et al., 2019). Giambona et al. (2018) show that 83% of firms manage geopolitical risk through operations by scaling back activities associated with the risk. Similarly, to mitigate risk, firms reduce and carefully approach their discussions on partisan issues, often instead shifting focus to their products (Bhagwat et al., 2020; Cassidy and Kempf, 2024; Mkrtchyan et al., 2024).

We add to this literature by examining whether firms adjust their corporate culture messages in response to changing political polarization.

Corporate culture plays a crucial role in firm outcomes.[26] Edmans (2011) finds that the firms ranked as the best workplaces have higher future abnormal returns, and Hilary and Hui (2009) show that firms in highly religious counties, often associated with conservative cultures, face lower risk exposure. Liu (2016) documents that corporate culture has a strong impact on corporate misconduct. O'Reilly (1989) and Kreps (1990) explain the persistence and resistance of culture to change, though governance, board diversity, and ownership shifts can drive cultural evolution (Guiso et al., 2015; Grennan, 2022a; Cai et al., 2024). Corporate culture also varies with a firm's competitive position, employee turnover, and executive ownership (Graham et al., 2022). Corporate goals serve as a reflection of culture, evolving beyond shareholder wealth maximization to include stakeholder priorities such as customers, employees, suppliers, and broader societal concerns (e.g., environmental, social, and governance; ethics) (Rajan, Ramella, and Zingales, 2022). Building on this research, we examine how corporate culture messaging evolves in response to political shifts, considering firms' political affiliations. In addition, we assess whether these messaging changes reflect strategic communication or genuine cultural shifts by analyzing related firm outcomes.

Our study also contributes to the literature on strategic communication. Mkrtchyan et al. (2024) and Bhagwat et al. (2020) examine strategic corporate messaging on

[26] Quantifying cultural characteristics is difficult, but the recent application of textual analysis to surveys, websites, letters to shareholders, and earnings calls helps identify corporate culture dimensions (e.g., O'Reilly et al. 1991; Chatman et al. 2014; Guiso et al. 2015; Li et al. 2021; Graham et al. 2022; Grennan 2022a, b).

sociopolitical partisan issues related to gun ownership, abortion, immigration, climate change, and DEI in firms' official communication, including earnings calls and company reports. Cassidy and Kempf (2024) examine executives' private communication, showing that while S&P 500 executives tweet about climate change and DEI, these tweets do not have a strong return association. A related article by Jiao and Ren (2024) highlights the link between the partisanship of the top management team and corporate culture. Hu et al. (2023) also find declines in culture messaging following exogenous regulatory shocks reducing fiduciary duties. Unlike these studies, we focus on corporate culture messaging related to non-partisan issues, such as integrity, quality, and respect. In addition, our study differs by examining how corporate culture messaging and firm outcomes respond to national politics, including election-driven changes in political alignment and polarization.

3. Hypotheses Development

We examine whether corporate culture messaging changes with political shifts. At the intensive margin, we aim to understand which corporate culture values—integrity, teamwork, innovation, quality, and respect—are elevated and downplayed along political lines. Political shifts from presidential elections affect firms' political alignment. For example, firms located in counties that vote Republican, likely-Republican firms, align with a Republican president but are misaligned with a Democrat president. Existing literature finds that political alignment influences perceptions of economic well-being and sensitivity to political backlash. However, these factors are unlikely to influence integrity (related to accountability, honesty, and transparency) or teamwork (related to collaboration) as these fundamental values should persist, regardless of economic or political perceptions

(Hilary and Hui, 2009). In contrast, we hypothesize that shifts in alignment and "political hedging" influence how executives message about innovation, quality, and respect. These values, as the media notes, encompass "buzzwords ripe for attack, like 'innovation,' 'sustainability,' [and] 'DEI,' [and are] business principles-turned-corporate fads" (Borchers, 2024).

The corporate value of innovation is associated with being adaptable, taking advantage of opportunities, and seizing growth initiatives. Executives' focus on opportunities and growth—particularly innovation—should be more pronounced when they are politically aligned with the president, given their more optimistic perception of economic growth (Knill et al., 2022; Arikan et al., 2023) and even increased investment (Rice, 2024). Therefore, we conjecture that politically aligned executives are more likely to highlight innovation, while misaligned executives downplay it. Similarly, political misalignment and a weaker economic outlook may lead to cost-cutting measures that compromise quality, prompting executives to minimize discussions about quality to avoid drawing attention to the issue.

Politically misaligned executives, beyond having a more negative perception of economic growth, may also fear political backlash. To mitigate this risk, they may participate in "political hedging" by balancing with political donations, reducing hiring and tangible investment, and carefully avoiding discussions of topics related to abortion, gun ownership, DEI, the environment, and the climate (Hassan et al., 2019; Bhagwat et al., 2020; Mkrtchyan et al., 2024). As respect—encompassing diversity, community, and environmental concerns—is the corporate culture value most linked to DEI and

sustainability, we hypothesize that executives seeking to avoid backlash will downplay discussions of respect. Overall, we hypothesize the following:

Hypothesis 1. Political shifts influence corporate culture messaging, such that politically misaligned executives message less about corporate culture dimensions of innovation, quality, and respect.

Hypothesis 1 on differences in corporate culture messaging between politically aligned and misaligned firms assumes that executives actively discuss corporate culture. Without this communication, observing meaningful differences in how messaging changes would be difficult. As there is no relationship without communication, a significant reduction in cultural messaging could make firms appear more similar. Therefore, we take a "big picture" perspective, at the extensive margin, to understand whether executives change their overall corporate culture messaging along the political dimension and when they significantly reduce their messaging.

According to Grennan and Li (2023), corporate culture can evolve in response to shocks in internal and external systems, people, and events. Similarly, Gorton and Zentefis (2022) find that corporate culture progress does not happen automatically but through external pressure. Political events, in particular, influence societal culture. For example, Acemoglu and Jackson (2015) show that political leaders and presidents can shape societal norms and values through policies or rhetoric. This societal culture can spill over to corporate culture as corporate executives politically aligned with the president feel pride associated with the "winning" political party and societal culture (Hodson, 1998). Pride can amplify the alignment between societal and corporate culture, leading aligned

executives to discuss corporate culture and emphasize its strengths more than misaligned executives. This supports Hypothesis 1, which is that aligned executives are more likely to highlight specific corporate culture dimensions. However, in periods of heightened tension and division, executives may be less inclined to express pride openly, consistent with the literature on conformity and herd mentality (Lieberman and Asaba, 2006).

Executives tend to avoid or downplay discussions of partisan topics during periods of heightened political polarization, which reflect greater societal divisiveness (Bhagwat et al. 2020; Mkrtchyan et al. 2024). While the five corporate culture dimensions are inherently non-partisan, we conjecture that executives adjust their messaging on these values depending on political alignment. As a result, even non-partisan messaging may carry implicit political signals, increasing the risk of political backlash, especially during highly polarized periods. Just as executives refocus discussions on products and minimize partisan topics when polarization rises, they may also reduce corporate culture messaging altogether. Therefore, we hypothesize the following:

Hypothesis 2. Political shifts influence corporate culture messaging such that executives reduce such messaging when political polarization increases.

Changes in corporate culture messaging following political shifts in Hypotheses 1 and 2 may reflect actual changes in corporate culture or be a form of strategic communication. Li et al. (2021) show that corporate culture messaging aligns with actual corporate outcomes; for example, firms that message more about innovation tend to produce more patents and citations. However, for political shifts to drive actual changes in corporate culture, we should observe a direct link between messaging and outcomes,

specifically along political lines. For example, if increases in innovation messaging correspond with greater patent activity **only when firms are politically aligned**, this would suggest a substantive cultural shift. Conversely, if messaging changes occur without corresponding shifts in outcomes, or if they happen similarly during both political alignment and misalignment, corporate culture messaging in response to political shifts likely serves as a form of strategic communication rather than an actual cultural transformation. Thus:

Hypothesis 3. Changes in corporate culture messaging in response to political shifts reflect strategic communication.

3. Empirical Design

3.1 Data

We collect county-level presidential election voting data from the MIT election lab, which is available from 2000 to 2020.[27] We identify the county as Democratic or Republican using county voting choices in presidential elections. We collect the PCI from the Federal Reserve Bank of Philadelphia. Firm headquarters data come from the University of Notre Dame, where headquarters location is gathered from the 10-K and 10-Q header sections via textual analysis.[28] Also, to control for economic condition, macroeconomic variables are collected from the Federal Reserve Bank of St. Louis.[29] We collect the county population from the Census to control for the size of the county.[30] We

[27] https://electionlab.mit.edu/
[28] https://sraf.nd.edu/sec-edgar-data/10-x-header-data/
[29] https://fred.stlouisfed.org/
[30] https://www.census.gov/data/datasets.html

collect data on the Sinclair network acquisitions from SDC Platinum and include additional acquisitions from Dasgupta et al. (2021).

Firm-level cultural variables of integrity, teamwork, innovation, quality, and respect are from Li et al. (2021), who use seed words from Guiso et al. (2015) and natural language processing to form cultural dictionaries and apply them to earnings calls; stable scores are available from 2002 to 2021.[31] All culture variables are scores from word counts of tokens normalized by the document length. Sentiment measures from earnings calls come from Hassan et al. (2019).[32] We follow the same firm selection as Li et al. (2021), excluding financial firms, banks, and utilities with SIC codes 6000–6999 and 4900–4949. Furthermore, in separate analysis, we identify culture from the firms' shareholder meeting transcripts using the dictionary from Li et al. (2021). Firm accounting information comes from Compustat. The full sample, which is from 2002 to 2021, consists of 36,415 firm-level observations.

3.2 Empirical Specification

We examine whether and how firms change their corporate culture messaging in response to nationwide political changes in the United States. In addition, we ask whether likely-Republican firms adjust their corporate culture emphases differently from likely-Democrat firms. Our main specification uses two-way fixed effects at the firm and year level:

[31] We thank Li et al. (2021) for providing the corporate culture dictionary and scores. Their corporate culture measures are less subject to "window-dressing" because they come from the earnings calls' unscripted Q&A section, which is an unlikely avenue for corporate cultural self-promotion. Moreover, Li et al. (2021) reduce the influence of "stated" values through lower weight on frequent words in an effort to capture firms' true cultural underpinning.

[32] See https://www.firmlevelrisk.com/sentiment. We divide the provided sentiment variables by 100.

$$Culture\_Score_{i,t} = PoliticalFactor_t \times Likely\text{-}Dem._{i,t} + PoliticalFactor_t \times Battleground_{i,t} + Controls_{i,t} + Firm_i + Year_t + \delta_{i,t}, \quad (1)$$

where $Culture\_Score_{i,t}$ are scores of firm's i corporate culture emphasis on integrity, teamwork, innovation, respect, quality, sentiment, and the sum of culture measures in year t. Two factors represent $Political\_Factor_t$. First, we use presidential changes and create indicator variables equal to 1 for each year of individual presidencies (e.g., $Bush_t$, $Obama_t$, and $Trump_t$). Second, for political polarization, we use *Post2010*, an indicator that equals 1 after 2010, when polarization experiences a large increase in PCI level, or PCI_t, the actual index. Next, $Likely\_Dem._{i,t}$ ($Likely\_Rep._{i,t}$) is an indicator variable that equals 1 for firms located in counties that vote for Democratic (Republican) candidates in presidential elections.[33] In addition, $Battleground_{i,t}$ is an indicator that equals 1 for years when firms are located in battleground states. Table A.1 in the Appendix presents states identified as battlegrounds using the definition from Gulen and Myers (2024) and Gerber et al. (2009). We also include a set of firm-level controls ($Controls_{i,t}$) for firm i in year t, including the accounting variables profitability, measured by return on assets (ROA) and profit margin; liquidity; leverage; size; and sales growth. In addition, the log of document length controls for longer documents having more words overall, and the log of population controls for the influence of local factors.[34] The interaction term $Political\_Factor_t \times Likely\_Dem.$, with

[33] We follow Meeuwis et al. (2022) to identify likely-Republicans and likely-Democrats using county-level vote share in presidential elections. Meeuwis et al. (2022) find similar results when classifying firm political leaning using top executives' political donations. Knill et al. (2022) also find similar results when classifying firm political leaning by either the voting preferences around firm headquarters or executives' political donations. Finally, Fos et al. (2021) use executives' voting record party affiliation to classify political leaning.

[34] We control for the local population because firms in areas with larger populations may provide more disclosure, given the local investment bias. We also control for the length of firms' communication, as Loughran and McDonald (2014) show that the size of the firm's 10-K filings captures the readability of the firm's information.

$Post2010_t$ as the $Political\_Factor_t$, enables us to compare the average emphasis on $Culture\_Score_{i,t}$ between likely-Democrat and likely-Republican firms before and after 2010. Similarly, the interaction term $Political\_Factor_t \times Likely\_Dem._{i,t}$, using $Bush_t$ and $Trump_t$ as a $Political\_Factor_t$, allows us to examine differences in the average emphasis put on $Culture\_Score_{i,t}$ by likely-Democrat versus likely-Republican firms during the Bush and Trump presidencies as compared with Democratic presidencies. $Firm_i$ and $Year_t$ are firm and year fixed effects. Standard errors are clustered at the firm level. Variable definitions are in Table A.2

We also examine changes in firms' corporate culture emphases across time and estimate the following firm fixed effects specification:

$$Culture\_Score_{i,t} = PoliticalFactor_t \times Likely\text{-}Dem._{i,t} + PoliticalFactor_t \times likely\text{-}Rep._{i,t} + PoliticalFactor_t \times Battleground_{i,t} + Elec.\ Year_t + Controls_{i,t} + Firm_i + \mu_{i,t}. \quad (2)$$

This firm fixed effects specification allows us to examine how different firms, specifically $Likely\_Dem._{i,t}$, $Likely\text{-}Rep._{i,t}$, and $Battleground_{i,t}$, update corporate culture emphases over time, given political shifts. For example, using Post2010 as the $Political\ Factor_{i,t}$ allows us to examine changes in corporate culture emphasis before and after 2010 for $Likely\_Dem._{i,t}$ firms, as well as $Likely\_Rep._{i,t}$ and $Battleground_{i,t}$ firms. Standard errors are clustered at the firm and year levels. The indicator $Elec.\ Year_t$ equals 1 for election years. In this specification, we also include additional time-varying annual macroeconomic controls for the consumer price index (CPI) and gross domestic product (GDP).

3.3 Descriptive Statistics

Table 1 provides a summary of statistics. Panel A shows the mean, median, 25th and 75th percentiles, standard deviation, and the number of observations for cultural and economic firm-level variables. Among the cultural messages, innovation is the most discussed category of corporate culture, with its mean almost twice that of other categories. Panel B provides annual observations for firms that are likely-Democrat and likely-Republican and those headquartered in battleground states. Similar to Meeuwis et al. (2022), our data are tilted toward Democratic locations. Yet the number of firms in battleground states remains steady throughout our sample. Panel C presents corporate culture scores by industry. Corporate culture is heterogeneous across industries: SIC 7 has the highest overall culture score at 19.57, and SIC 1 has the lowest at 11.12. In addition, innovation is the highest for service industries (SICs 7 and 8), at 6.64. Grennan and Li (2023) provide time-series charts of corporate culture characteristics by industry.

4. Results

This section explores whether firms adjust their corporate culture messaging in response to different political environments. First, we assess whether firms with different political alignments emphasize distinct cultural aspects under Republican versus Democratic presidents. Second, we investigate whether corporate culture messaging shifts with varying levels of polarization, validating these results using exogenous geographic shocks. We also differentiate between strategic communication and actual reforms by analyzing corresponding outcomes. Finally, we examine cross-sectional differences between likely-Democrat and likely-Republican firms.

4.1 Corporate Culture and Different Presidencies

We begin our examination of whether and how firms alter their corporate culture messaging in response to political shifts by considering presidential elections. Specifically, we assess whether likely-Republican firms alter their messaging differently from likely-Democrat firms across the Bush, Obama, Trump, and Biden presidencies, with particular interest in the unexpected 2016 election. Table 2 compares within-firm changes in corporate culture messaging using equation (1), in a difference-in-differences setting with firm and year fixed effects.

Our sample includes firms with stable political orientations and those experiencing shifts due to headquarters relocations or county vote swings. To isolate the impact of political shocks on corporate culture messaging from firm-level changes, we use firm fixed effects and separate sample analyses. Table 2, Panel A, focuses on firms headquartered in politically stable areas, and Panel B examines firms undergoing political orientation shifts. This approach aligns with that of Arikan et al. (2023), who analyze accounting disclosures and CEO optimism on the basis of political alignment with the U.S. president, validating their findings using firms with stable CEO political preferences.

Table 2, Panel A, results show an important shift in how firms message their corporate culture. In the earlier years, during Bush's term, likely-Democrat firms talked less about innovation, quality, respect, and overall corporate culture but used a more positive tone. In contrast, likely-Republican firms talked more about innovation, quality, respect, and overall culture, consistent with political alignment with the Bush presidency. These results support Hypothesis 1.

Under Trump, the previously observed differences in corporate culture messaging between likely-Democrat and likely-Republican firms are no longer statistically significant. Specifically, when comparing the terms of Democrats Obama and Biden to Republican Trump, we do not find meaningful differences in corporate culture messaging. This contrasts sharply with the trends observed during the Bush presidency. During Trump's term, corporate culture messaging among likely-Democrat and likely-Republican firms appears more similar than different.[35] We verify that the results are not specific to multinational firms in Appendix Table A.3, Panel A.[36] Finally, firms in battleground states talked more about innovation and quality during Bush's presidency than Democrat presidencies but messaged less about quality and all other corporate culture dimensions during the presidencies of Obama, Trump, and Biden.

In Table 2, Panel B, we confirm the similarity in corporate culture messaging during Trump's term, examining a subsample of firms that move or are in counties that swing their political support. These results need to be interpreted with caution, however, as determining the accurate political preferences of this subsample is difficult. Overall, we document a significant shift in corporate culture messaging between our sample's earlier and later periods. While during Bush's term, politically aligned likely-Republican firms talked more about corporate culture and emphasized different corporate culture attributes

[35] Grennan (2022b) examines the similarity in corporate culture communication and finds that similar/consistent within-firm communication is positively associated with firm valuations.

[36] In Appendix Table A.3, Panels B and C, we examine whether geographic dispersion in operations influences corporate culture messaging. Panel B focuses on industries with geographically concentrated operations (e.g., oil, mining), and Panel C examines industries with geographically dispersed operations (e.g., retail, wholesale). Running similar tests as in Table 2, we find that the degree of geographic concentration does not significantly drive our results, suggesting that the extent of a firm's operational dispersion does not meaningfully affect corporate culture messaging. This may be because messaging primarily originates from headquarters rather than operational locations.

than likely-Democrat firms, during Trump's term, likely-Democrat and likely-Republican firms became similar in how they updated their corporate culture emphases as compared with Obama's and Biden's terms.

4.2 Corporate Culture and Political Polarization

Next, we continue to focus on how firms alter their corporate culture messaging in response to political shocks, considering changes in partisan polarization as a source of political variation. Our proxy for this national political shock is a significant rise in partisan polarization after 2010, as indicated by the PCI. Table 3 presents these results. Panel A compares the shifts from before and after 2010 for likely-Democrat, likely-Republican, and battleground firms using equation (2), with firm fixed effects. We employ firm fixed effects regressions to gain deeper insights into the gradual changes in corporate culture emphases over time, where we control for the recession years and overall economic conditions. Panels B and C of Table 3 use equation (1) in a difference-in-differences framework with firm and year fixed effects to compare within-firm changes in corporate culture messaging before and after increased polarization, addressing potential endogeneity concerns. Similar to Table 2, Table 3 analyzes firms by political stability. Panel B focuses on firms headquartered in areas with stable voting patterns, and Panel C examines firms experiencing shifts in political orientation.

Table 3, Panel A, results show that all firms, regardless of their political preference, chose to talk less about all corporate culture aspects but increased their sentiment after 2010. In other words, both likely-Democrat and likely-Republican firms updated their corporate culture messaging similarly after 2010 by becoming more neutral and talking less about corporate culture. However, the reductions in teamwork for all firms and

innovation for likely-Democrat firms were not statistically significant. Battleground firms also exhibited a notable decline in innovation emphasis. These results support Hypothesis 2.

We next assess whether the decline in corporate culture messaging after 2010, amid rising political polarization, differed between likely-Democrat and likely-Republican firms using a difference-in-differences approach. Table 3, Panel B, presents the results. While both groups reduced their cultural messaging, likely-Democrat firms maintained a greater emphasis on innovation, quality, respect, and overall culture than likely-Republican firms. These findings align with those in Table 2, reinforcing the notion that increased polarization contributed to greater similarity in corporate culture emphasis across firms during the Obama and Trump presidencies. Notably, apart from a decline in innovation emphasis, firms in battleground states did not significantly adjust their cultural messaging, highlighting the roles of firm political alignment and exposure in shaping these changes.

Table 3, Panel C, presents the results using equation (1) for firms that experience a shift in political alignment due to being headquartered in a "swing" area or relocating. Consistent with previous findings, likely-Democrat firms continue to emphasize integrity, innovation, and overall culture more than likely-Republican firms after 2010. These results echo Table 3, Panel B, and Appendix Table A.4, which examine firms in battleground areas. Firms in battleground areas, known as "purple" states, do not update their cultural emphasis in response to increased polarization, highlighting the role of more balanced political associations in corporate culture messaging.

We verify that the parallel trends assumption holds. Following Faccio and McConnell (2023), we observe that likely-Democrat and likely-Republican firms did not exhibit statistically significant cultural messaging differences before the increase in polarization.[37] Appendix Figure A.2 plots the coefficients of the interaction between likely-Democrat firms and specific years from 2005 to 2021. Consistent with Table 3, Panel B, we find that after 2010, likely-Democrat firms show an upward trend in innovation, quality, respect, and overall culture compared with likely-Republican firms, indicating increased messaging. However, no significant pre-2010 trends suggest prior cultural differences. We observe similar non-discernible trends before and after 2010 for integrity, teamwork, and sentiment. Overall, firms reduce cultural messaging after 2010 amid rising political polarization, with likely-Republican firms exhibiting a sharper decline in innovation, quality, respect, and overall culture than likely-Democrat firms.

4.3 Geographic Shocks to Political Polarization

Next, we confirm that firms message less about corporate culture when political polarization increases. In addition to the within-firm and across-time variation results in Table 3, we examine firms exposed to exogenous geographic shifts in polarization. We hypothesize that firms in areas with increasing polarization will message less about their corporate culture. Thus, we compare firms in regions with rapidly rising polarization with those in politically stable areas to assess differences in corporate culture messaging.

[37] Faccio and McConnell (2023) show that the parallel trends assumption holds by plotting the interaction coefficients between fascist politicians and specific years in their difference-in-differences regression: firm performance tied to Fascist politicians did not decline before the fall of fascism but declined after. We follow this setting.

First, we examine areas with significant changes in media partisanship, given its influence on political orientation (DellaVigna and Kaplan 2007). Studies such as those of Martin and McCrain (2019) and Dasgupta et al. (2021) show that the entry of Fox Corporation and Sinclair Broadcasting Group—both favoring Republican rhetoric—led to increased Republican votes in affected areas. Accordingly, areas that already leaned Republican and saw the entry of these media platforms became more polarized toward the Republican party. We hypothesize that firms in increasingly polarized areas, particularly likely-Republican firms classified by voting patterns (Meeuwis et al. 2022), will reduce corporate culture messaging following the entry of partisan media. To test this, we use Sinclair's entry through acquisitions as a geographic shock to political polarization.[38]

Second, we examine areas with sharp increases in Republican vote shares in the 2016 election. We follow the methodology from Dahl et al. (2022) and Autor et al. (2020) that underscores voting and polarization shifts in areas where local labor markets are negatively influenced by the "China shock" due to trade-related competition with China. We identify counties that already leaned Republican and saw a sharp increase in Republican vote share in the 2016 election as those experiencing heightened polarization toward the Republican party. Given this trend, we expect firms in these areas—classified as likely-Republican—to reduce their corporate culture messaging.

Table 4 presents the results of how firms adjust their corporate culture messaging in response to these two geographic shocks to political polarization. Panel A focuses on Sinclair's entry, and Panel B examines extreme increases in Republican vote shares in the 2016 election. Table 4 models use firm and year fixed effects and cluster standard errors at

[38] Fox's entry occurred mostly before 2000, which is less useful for our analysis, as the sample starts after 2002.

the firm level. Consistent with Table 3 results, Panel A shows that firms reduce cultural messaging as polarization increases. Sinclair's expansion into already-Republican-leaning areas further polarized these regions. Firms in these areas reduced all aspects of cultural messaging, with significant declines in innovation and overall culture. The variable *Sinclair_acq* indicates Sinclair's entry into an area, and its interaction with *Likely-Rep* reveals that likely-Republican firms reduced cultural messaging following Sinclair's introduction.

Table 4, Panel B, results align with previous findings, as likely-Republican firms that increase their vote share more toward the Republican party talk less about integrity and respect. The indicator variable *Repub_Polar* equals 1 if a Republican-leaning county experiences the highest tercile increase in its vote share toward the Republican party in the 2016 election compared with the 2008 election. To examine cultural changes around the 2016 election, we focus on the surrounding presidencies of Obama and Trump. Consistent with Table 3, Panel A, which proxies polarization using the higher PCI after 2010, firms in highly polarized areas reduce messaging on most corporate culture aspects while using more positive sentiment.[39] Overall, leveraging geographic shocks—partisan media entry and extreme vote share shifts—we continue to find reductions in corporate culture messaging as polarization rises, supporting Hypothesis 2.

4.4 Outcomes: Do Firms "Walk the Talk" or simply "Talk"?

So far, we have examined how corporate culture messaging responds to political shifts and identified specific aspects—innovation, quality, and respect—that are associated

[39] Table 4 results exclude firms that experience political changes as a result of either county voting pattern changes or the firm moving. In non-tabulated results, we verify that Panel B remains robust with such firms.

with political alignment. Next, we aim to understand whether these politically motivated changes in cultural messaging reflect actual changes in a firm's culture or merely strategic communication designed to portray cultural values without underlying changes. If firms strategically communicate culture, increased messaging on innovation, for example, would not lead to greater innovation in subsequent years. Conversely, genuine cultural change would manifest in both messaging and future outcomes. To distinguish between these possibilities, we analyze whether shifts in cultural messaging align with changes in firm outcomes over time.

These tests differ from our previous analyses, which examined how cultural messaging responds to political factors. Here, we focus on whether cultural messaging reflects actual cultural change or strategic communication by assessing its relationship to corporate outcomes over time. Li et al. (2021) find that, in the cross-section, cultural messaging aligns with actual corporate behavior and propose the following proxies: integrity (restatements), teamwork (joint ventures and alliances), innovation (patent counts and citations), quality (best employer listings), and respect (top brand listings). We collect data from various sources: Audit Analytics for restatements (*integrity*), SDC Platinum M&A module for joint venture and alliance data (*teamwork*), Noah Stoffman's website (*innovation*), and Brand Finance's brandirectory (http://brandirectory.com) for top brands (*quality*).[40] The "Great Place To Work" Institute ranks "100 best companies to work for in America," which Li et al. (2021) use to proxy for *respect*.[41] Table 5, Panel A, results confirm Li et al. (2021 results in our dataset: corporate culture messaging reflects actual corporate outcomes in the cross-section.

[40] https://host.kelley.iu.edu/nstoffma/ provides patent and citation data.
[41] Alex Edmans collects the ranking by year and provides the data on his website: https://alexedmans.com/.

In Table 5, Panel B, we test whether cultural messaging predicts future firm outcomes. If firms genuinely "walk the talk," shifts in cultural messaging should align with subsequent changes in corporate outcomes. For example, firms emphasizing innovation should later produce more patents and citations. If not, this suggests strategic communication rather than substantive cultural change. We specifically examine whether firms strategically adjust messaging or genuinely update culture-related outcomes in response to political shifts, comparing politically aligned and misaligned firms. As only a subset of Li et al.'s (2021) corporate outcomes varies over time, we focus on this subset.

The results indicate that cultural messaging does not consistently translate into measurable changes in firm behavior, particularly for misaligned firms. When misaligned firms emphasize integrity, restatements increase rather than decline, contradicting expectations. Likewise, after highlighting innovation, citations tend to decrease. Untabulated results show that while aligned firms also engage in strategic communication, misaligned firms do so more prominently for integrity and innovation. Teamwork messaging is associated with a modest increase in joint ventures and strategic alliances in the following year, particularly for misaligned firms, though this relationship varies over time. Overall, cultural messaging within the political dimension appears more strategic than substantive, reinforcing its limited role in driving lasting corporate change. These results support **Hypothesis 3** and align with prior literature suggesting that firms strategically communicate their values (Grennan, 2022; Bloch and Kranton, 2022). As our results reveal strategic messaging for only three of the five values, future research can explore whether all values are strategically communicated within the political dimension.

4.5 Cross-Sectional Differences in Corporate Culture

In our main analysis, we examine changes in corporate culture messaging across time, given political shifts. We also verify the results of Li et al. (2021): in the cross-section, corporate culture messaging corresponds to corporate outcomes. Next, we want to understand whether cross-sectional differences exist in corporate culture messaging between likely-Democrat and likely-Republican firms and whether political alignment plays a role. Therefore, we estimate

$$Culture\_Score_{i,j,k,t} = RepPres\_ \times \_Likely\_Dem. + DemPres\_ \times \_Likely\_Dem. + RepPres\_ \times \_Battleground + DemPres\_ \times \_Battleground + Elec\_Year_{t\_} \times \_Likely\_Dem. + Elec\_Year_{t\_} \times \_Battleground + Controls_{i,t} + Industry_j + State_k + Year_t + \varepsilon_{i,j,k,t}, \quad (3)$$

where the interaction term *RepPres_*×*_Likely_Dem. (DemPres_*×*_LikelyDem.*) allows us to examine the differences in corporate culture emphases by likely-Democrat firms compared with likely-Republican firms in the same industry and state during periods of political alignment and misalignment. The interaction terms with *Battleground* allow us to examine corporate culture emphases by firms in battleground states versus other firms. Finally, $Industry_j$, $State_k$, and $Year_t$ are industry (using Fama–French 30), state, and year fixed effects, respectively. Standard errors are clustered at the firm level.

Table 6, Panel A, provides cross-sectional comparisons in terms of firms' political alignment. [42] Likely-Democrat firms, when politically aligned during Democrat presidencies, emphasize innovation and have more positive sentiment. However, likely-

[42] See Appendix Table A.5 for baseline corporate culture comparisons of likely-Democrat and likely-Republican firms.

Republican firms, when politically aligned during Republican presidencies, message more about quality and respect. These emphases could be related to litigations consistent with prior research.[43] In contrast, we observe no significant difference in corporate culture messaging between firms in battleground states and other firms. We extend this analysis to specific election years in Appendix Table A.5 and find similar messaging across firms during the period of heightened polarization during the 2016 election. Overall, our findings underscore the role of political alignment in shaping firms' corporate culture messaging.

4.6. Robustness

In this section, we verify the robustness of our results. First, in Table 7, Panel A, we verify that our results in Table 3, Panel A, examining cultural messaging before and after a significant polarization increase in 2010, are robust to measuring political polarization directly with the PCI. Appendix Table A.6 presents additional robustness checks; our results become even more significant with robust standard errors (Panel A). The results are robust in a subsample of firms that span most presidencies in Panel B. This approach ensures that corporate culture messaging reflects genuine trends rather than anomalies tied to firms entering or exiting the sample. The results are also robust to including our full sample, encompassing firms for which political preferences are difficult to identify in Panel C, and to excluding dynamic periods such as the 2008 financial crisis and the 2020 COVID-19 pandemic in Panel D.[44] In untabulated analysis, we verify that our results are robust to alternative ways of classifying firms as likely-Democrat and likely-

[43] Messaging may also reflect risk mitigation strategies, as likely-Democrat firms face more intellectual property lawsuits whereas likely-Republican firms encounter more civil and labor rights violations (Hutton, Jiang, and Kumar 2015). Firms may highlight areas of corporate culture related to their legal vulnerabilities to address or deter disputes.

[44] Appendix Table A.7 presents results for 2008, 2009, and 2020, in lieu of year fixed effects. Sentiment is lower and firms message less about corporate culture in 2008-09, but more during the COVID-19 pandemic.

Republican firms; we follow Hutton, Jiang, and Kumar (2014) and use executives' political donations. These combined analyses provide strong evidence of the robustness of our main results.

In Appendix Table A.3, we examine whether geographic dispersion affects firms' cultural messaging by comparing firms concentrated in one area with those spread across the United States. Geographically concentrated firms might exhibit more pronounced changes because of greater reliance on local resources and sensitivity to local political dynamics, while dispersed firms may be less affected as they operate across diverse regions, which dilutes the influence of any single political environment. However, our results are similar for concentrated and dispersed firms, suggesting that the headquarters' location—the central hub for decision-making and communication—is important for firms' cultural messaging regardless of geographic dispersion.

Finally, in Table 7, Panel B, we examine whether political shifts varies with firms' cultural messaging beyond earnings conference calls and apply the culture dictionary of Li et al. (2021) to shareholder meetings.[45] While both mediums share structural similarities, such as agenda presentations and Q&A sessions, shareholder meetings allow for broader questions beyond financial metrics. Firms can tailor their communication to different mediums: Grennan (2022b) documents inconsistencies in banks' corporate culture messaging to employees, investors, and the community. Such inconsistencies highlight strategic communication. Consistent with Grennan (2022b), we find that executives choose

[45] Building on the parsing methodology Li et al. (2021) outline, we apply the same term frequency-inverse document technique, count the frequency of the cultural categories that appear in the document, and normalize scores with the document length. We use shareholder meetings transcripts from CapitalIQ from 2011 to 2018, covering 1,432 firm-year observations.

to highlight different cultural dimensions during shareholder meetings and earnings calls, further highlighting strategic communication. Importantly, we continue to find that cultural messaging changes with political shifts. During Republican presidencies, likely-Republican and likely-Democrat firms increase messaging on integrity, respect, and general cultural values in shareholder meetings. However, likely-Democrat firms focus more on innovation, while likely-Republican firms emphasize teamwork. Our findings highlight the role of political alignment in shaping corporate cultural messaging.

5. Conclusion

The political environment has a profound impact on various aspects of society, including the behavior of firms. Firms' political preferences shape their actions. We examine whether and how firms update corporate culture messaging in response to significant shifts in the political environment, given firms' political leaning. Using five key corporate culture aspects—integrity, teamwork, innovation, quality, and respect—reflected in earnings calls, we document novel findings. First, we show that firms adjust their corporate culture messaging to political shifts proxied by presidential elections and changes in polarization. We show that firms shifted their corporate culture emphasis in the post-2010 period of higher polarization during the presidencies of Barack Obama and Donald Trump. Unlike the earlier period of George W. Bush's presidency, when likely-Republican firms were politically aligned and messaged more about corporate culture aspects of innovation, quality, and respect than likely-Democrat firms, firms' corporate culture messaging became similar during the presidencies of Obama and Trump. Moreover, with increased political polarization, starting in 2010, all firms, regardless of their political

leaning, talked less about corporate culture. We verify firms' reductions of corporate culture messaging during periods of increased polarization by using several exogenous geographic shocks, including the introduction of partisan media and extreme voting changes associated with the "China shock."

Second, we examine whether firms "walk the talk" and whether their politically motivated changes in corporate culture messaging lead to changes in corresponding corporate outcomes or are more consistent with strategic communication. We find that firms engage in strategic communication when they update their corporate culture messaging around political shifts. In addition, we present intriguing findings on how corporate culture messaging changes in a different communication medium, shareholder meetings, during election years and present baseline corporate culture messaging differences for likely-Democrat and likely-Republican firms.

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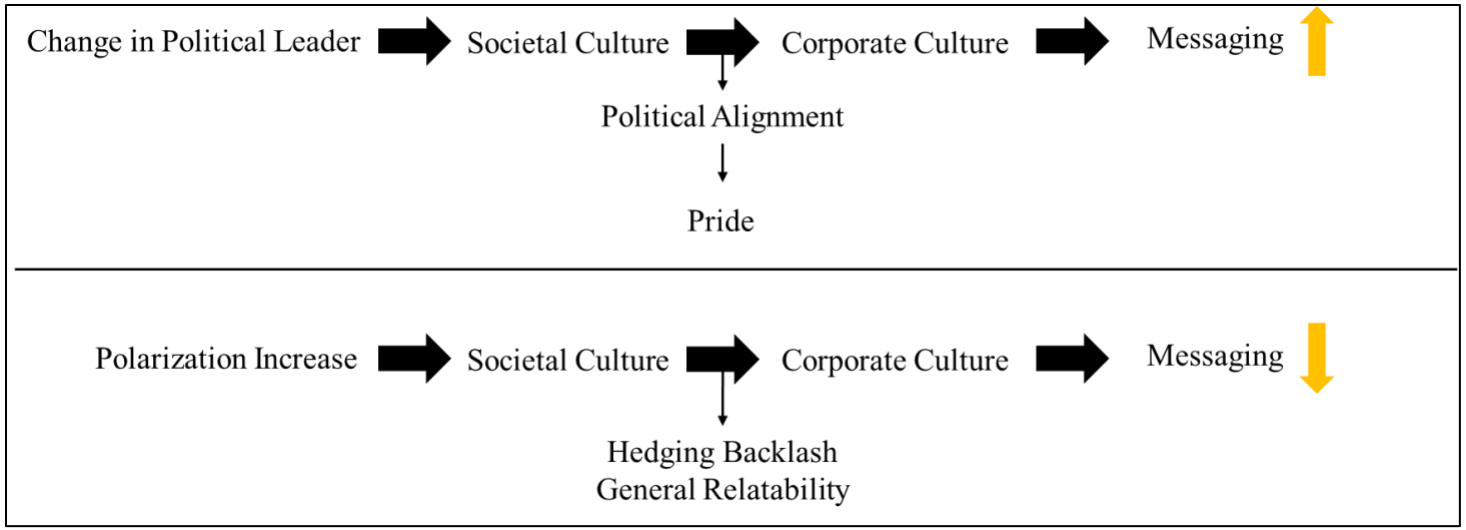
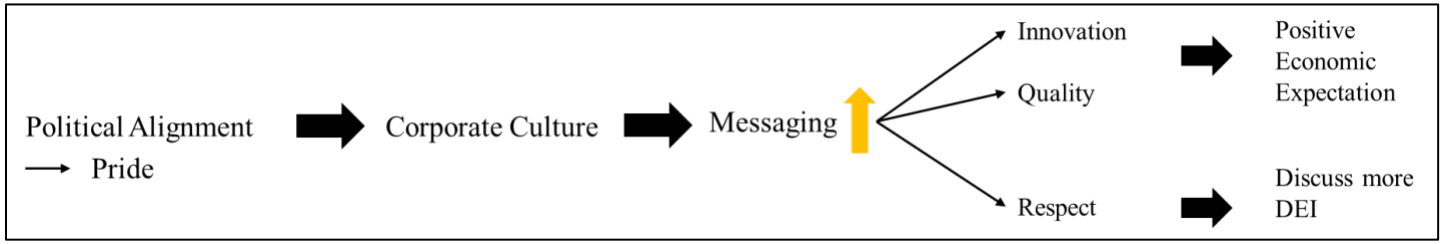


Panel A: Extensive Margin



Panel B: Intensive Margin

FIGURE 1

The figure shows the theoretical mapping of the influence of political changes on corporate culture messaging. Panel A presents the extensive margin and Panel B the intensive margin.

TABLE 1

Descriptive Statistics

This table reports summary statistics. Variables are defined in Appendix Table A.2. Panel A reports summary statistics for culture, firm-, and economy-wide variables. Panel B reports annual observations for firms that are likely-Democrat, likely-Republican, and in battleground states. Panel C presents the average culture scores across each industry. We use SIC one-digit codes to examine the average culture score for each industry. SIC code 0 is Agriculture, Forestry, and Fishing; 1 is Mining and Construction; 2 and 3 are Manufacturing; 4 is Transportation; 5 is Wholesale and Retail Trade; 6 is Finance, Insurance, and Real Estate; 7 and 8 are Services; and 9 is Public Administration and Other. The sample consists of 36,415 firm-year observations (3,379 firms) with earnings calls over the period 2002–2020.

Panel A: Summary statistics

	N	Min	p25	Mean	Median	p75	SD
Culture							
Integrity	36415	0	1.500	2.298	2.061	2.813	1.193
Teamwork	36415	0	1.344	2.525	2.036	3.178	1.742
Innovation	36415	0	2.915	4.879	4.223	6.134	2.803
Quality	36415	0	1.544	2.630	2.278	3.332	1.532
Respect	36415	0	1.589	3.110	2.528	3.987	2.213
Sentiment	36415	-27.559	5.431	8.399	8.229	11.196	4.431
CultureAll	36415	0.979	11.091	15.441	14.390	18.748	5.950
Firm and other							
ROA	36415	-0.884	0.047	0.067	0.106	0.159	0.193
Liquidity	36415	0.001	0.042	0.207	0.126	0.300	0.217
Leverage	36415	0.000	0.038	0.248	0.212	0.377	0.231
Size	36415	2.501	5.49	6.788	6.761	8.048	1.91
Sales	36415	-0.288	-0.025	0.098	0.070	0.191	0.219
Profit margin	36415	-1.006	-0.040	-0.052	0.033	0.085	0.293
Length	36415	5.298	8.338	8.815	8.887	9.454	0.842
Population	36415	8.223	13.299	13.809	13.821	14.385	1.069

Table 1 (continued)
Panel B: Annual counts of firm classifications

Year	Likely-Dem.	Battleground	Other shifts: headquarters relocations or county vote swings	All Firms
2002	739	322	475	1135
2003	931	408	597	1451
2004	988	441	626	1534
2005	1088	492	685	1686
2006	1158	545	732	1798
2007	1213	603	805	1891
2008	1645	665	830	1997
2009	1639	675	847	1991
2010	1625	673	844	1971
2011	1631	682	859	1991
2012	1501	656	840	1935
2013	1402	601	767	1792
2014	1495	635	795	1911
2015	1526	637	787	1942
2016	1488	616	741	1862
2017	1569	671	775	1978
2018	1581	677	759	1983
2019	1549	654	745	1936
2020	1580	641	709	1853
2021	1514	623	685	1778
Total:	27862	11917	14903	36415

Panel C: Average culture score of each industry

SIC	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
0	2.320	2.018	4.327	2.014	2.616	8.171	13.295
1	2.055	1.595	3.109	2.267	2.162	6.783	11.187
2	2.472	3.163	4.434	1.934	2.802	8.173	14.804
3	2.059	2.182	4.628	3.155	2.442	8.192	14.466
4	2.403	2.293	4.350	3.037	2.75	7.946	14.833
5	2.063	1.865	5.249	2.328	3.236	9.778	14.741
7	2.539	3.179	6.641	2.911	4.300	9.106	19.571
8	2.985	3.114	4.469	1.893	5.735	7.678	18.196

TABLE 2

Corporate Culture and Different Presidents

This table presents corporate culture measures for firms that are likely-Democrat, likely-Republican, and in battleground states under different U.S. presidents. The table reports changes in corporate culture by different types of firms during Bush's and Trump's terms as compared with Obama's and Biden's terms. Panel A presents results without swingers or movers. Panel B presents results with only swingers and movers. Variables are defined in Appendix Table A.2. All regressions include firm and year fixed effects. Standard errors are clustered at the firm levels. Standard errors are reported in parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Firms without changes in political affiliation

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Bush × likely-Dem.	0.037	0.024	-0.271**	-0.141*	-0.162**	0.452*	-0.513**
	(0.053)	(0.058)	(0.111)	(0.075)	(0.075)	(0.247)	(0.234)
Trump × likely-Dem.	0.035	0.006	0.073	0.034	0.066	-0.080	0.214
	(0.062)	(0.057)	(0.127)	(0.071)	(0.082)	(0.245)	(0.253)
Bush × battleground	0.024	0.060	0.220**	0.097*	0.007	-0.008	0.408*
	(0.045)	(0.049)	(0.096)	(0.050)	(0.087)	(0.197)	(0.216)
Trump × battleground	-0.021	0.075	-0.051	-0.091*	0.005	0.046	-0.083
	(0.048)	(0.050)	(0.112)	(0.048)	(0.084)	(0.186)	(0.217)
ROA	-0.089	-0.374***	0.189	0.090	-0.226	2.466***	-0.409
	(0.120)	(0.138)	(0.225)	(0.106)	(0.175)	(0.379)	(0.464)
Liquidity	0.140	0.270**	0.247	0.021	0.253*	0.130	0.931**
	(0.088)	(0.125)	(0.217)	(0.107)	(0.145)	(0.314)	(0.428)
Leverage	0.038	-0.188**	-0.104	-0.010	0.000	-0.187	-0.265
	(0.080)	(0.090)	(0.143)	(0.074)	(0.120)	(0.263)	(0.299)
Size	-0.050*	-0.061**	0.103	-0.109***	-0.131***	-0.036	-0.248*
	(0.026)	(0.030)	(0.071)	(0.028)	(0.043)	(0.089)	(0.133)
Sales	-0.223***	0.106**	0.036	0.158***	0.163***	2.254***	0.240
	(0.039)	(0.053)	(0.070)	(0.040)	(0.058)	(0.142)	(0.151)
Profit margin	-0.166**	-0.181**	-0.193	-0.074	-0.140	0.864***	-0.754***
	(0.070)	(0.081)	(0.123)	(0.059)	(0.088)	(0.220)	(0.262)
Length	0.098***	-0.008	0.065	0.077***	0.133***	-0.486***	0.364***
	(0.024)	(0.025)	(0.043)	(0.023)	(0.032)	(0.071)	(0.089)
Population	0.177	-0.074	-0.657	0.542	0.683*	-1.141	0.671
	(0.268)	(0.352)	(0.729)	(0.369)	(0.403)	(1.358)	(1.391)
Constant	-0.736	4.077	12.943	-4.827	-6.662	28.545	4.796
	(3.746)	(4.899)	(10.100)	(5.120)	(5.561)	(18.884)	(19.315)
Firm FE	Yes	Yes	Yes	Yes	Yes	0.452*	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	(0.247)	Yes
R^2	0.523	0.718	0.728	0.693	0.694	-0.080	0.726
N	21502	21502	21502	21502	21502	(0.245)	21502

Table 2 (continued)

Panel B: Firms with changes in political affiliation

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Bush × likely-Dem.	-0.027	0.005	-0.207***	0.025	-0.016	-0.046	-0.219
	(0.047)	(0.048)	(0.080)	(0.049)	(0.065)	(0.173)	(0.175)
Trump × likely-Dem.	0.066	0.007	0.137	-0.035	0.070	-0.556***	0.246
	(0.057)	(0.064)	(0.111)	(0.068)	(0.082)	(0.207)	(0.240)
Bush × battleground	0.042	0.003	-0.051	-0.067	0.030	-0.068	-0.043
	(0.054)	(0.058)	(0.090)	(0.061)	(0.068)	(0.203)	(0.210)
Trump × battleground	-0.068	0.009	0.040	0.137*	-0.015	-0.191	0.103
	(0.058)	(0.065)	(0.117)	(0.073)	(0.086)	(0.197)	(0.247)
ROA	-0.204	-0.880***	-0.310	0.008	-0.343	2.601***	-1.728***
	(0.159)	(0.196)	(0.238)	(0.151)	(0.225)	(0.482)	(0.566)
Liquidity	-0.044	0.262	0.244	0.064	0.487**	0.944**	1.013*
	(0.135)	(0.160)	(0.214)	(0.140)	(0.200)	(0.403)	(0.537)
Leverage	-0.005	-0.011	-0.325*	-0.180**	-0.029	-0.980***	-0.548
	(0.103)	(0.107)	(0.166)	(0.087)	(0.137)	(0.283)	(0.356)
Size	-0.140***	-0.016	0.037	-0.054*	-0.174***	-0.069	-0.346***
	(0.028)	(0.035)	(0.049)	(0.030)	(0.042)	(0.092)	(0.115)
Sales	-0.144***	0.031	-0.021	0.127***	0.300***	2.472***	0.292*
	(0.050)	(0.063)	(0.075)	(0.048)	(0.072)	(0.166)	(0.177)
Profit margin	-0.126	-0.084	-0.161	-0.057	-0.179*	0.677***	-0.607**
	(0.101)	(0.114)	(0.124)	(0.073)	(0.107)	(0.262)	(0.306)
Length	0.109***	-0.022	0.068	0.064**	0.102***	-0.447***	0.320***
	(0.027)	(0.029)	(0.046)	(0.029)	(0.039)	(0.085)	(0.099)
Population	0.010	0.013	-0.017	0.048*	-0.055*	0.077	-0.000
	(0.026)	(0.025)	(0.040)	(0.027)	(0.032)	(0.098)	(0.094)
Constant	2.217***	2.564***	3.978***	1.783***	4.024***	11.216***	14.567***
	(0.464)	(0.494)	(0.708)	(0.528)	(0.640)	(1.656)	(1.808)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.473	0.677	0.656	0.617	0.702	0.548	0.678
N	14897	14897	14897	14897	14897	14897	14897

TABLE 3

Corporate Culture and Partisan Polarization

This table presents corporate culture measures for firms that are likely-Democrat, likely-Republican, and in battleground states, given an increase in political polarization after 2010. Panel A presents within-firm comparisons with only firm fixed effects. Panel B and C provide results with a difference-in-differences (DiD) setting, either without swingers or movers or with only swingers and movers, respectively. Variables are defined in Appendix Table A.2. All regressions include firm and year fixed effects for Panels B and C. Standard errors are clustered at the firm and year level in Panel A and firm level in Panels B and C. Standard errors are reported in parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Within-firm corporate culture messaging and polarization

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Post2010 ×	-0.195**	-0.125	-0.141	-0.095*	-0.248**	0.669**	-0.805**
likely-Dem.	(0.072)	(0.074)	(0.144)	(0.052)	(0.087)	(0.250)	(0.368)
Post2010 ×	-0.175**	-0.109	-0.481***	-0.217**	-0.464***	0.938***	-1.446***
likely-Rep.	(0.078)	(0.089)	(0.163)	(0.079)	(0.124)	(0.322)	(0.427)
Post2010 ×	0.002	-0.032	-0.240**	-0.101	0.047	0.162	-0.323
battleground	(0.043)	(0.054)	(0.113)	(0.063)	(0.089)	(0.254)	(0.240)
Elec. Year	0.009	-0.006	-0.004	-0.004	-0.039	0.066	-0.044
	(0.027)	(0.023)	(0.056)	(0.011)	(0.031)	(0.155)	(0.129)
Year ‘08	-0.120**	-0.159***	-0.412***	-0.271***	-0.309***	-0.778***	-1.272***
	(0.051)	(0.042)	(0.082)	(0.031)	(0.067)	(0.177)	(0.231)
Year ‘09	-0.117	-0.252***	-0.779***	-0.141***	-0.297**	-1.479***	-1.586***
	(0.069)	(0.062)	(0.113)	(0.049)	(0.110)	(0.270)	(0.318)
Year ‘20	0.169***	0.022	-0.240***	0.258***	0.547***	-2.302***	0.756***
	(0.036)	(0.032)	(0.061)	(0.019)	(0.042)	(0.195)	(0.131)
ROA	-0.074	-0.363**	0.192	0.103	-0.189	2.426***	-0.331
	(0.127)	(0.135)	(0.245)	(0.112)	(0.168)	(0.531)	(0.534)
Liquidity	0.150	0.286*	0.262	0.030	0.274*	0.176	1.001**
	(0.092)	(0.141)	(0.204)	(0.112)	(0.142)	(0.368)	(0.438)
Leverage	0.048	-0.186*	-0.090	0.007	0.028	-0.320	-0.192
	(0.076)	(0.093)	(0.164)	(0.075)	(0.112)	(0.304)	(0.325)
Size	-0.049*	-0.063**	0.100	-0.105***	-0.116**	-0.061	-0.233*
	(0.028)	(0.030)	(0.072)	(0.031)	(0.044)	(0.105)	(0.133)
Sales	-0.223***	0.109**	0.035	0.158***	0.171**	2.311***	0.250
	(0.043)	(0.051)	(0.092)	(0.044)	(0.063)	(0.222)	(0.196)
Profit margin	-0.172**	-0.187**	-0.199	-0.084	-0.178*	0.905***	-0.819**
	(0.069)	(0.077)	(0.134)	(0.063)	(0.100)	(0.243)	(0.321)
Length	0.085***	-0.015	0.054	0.064***	0.093**	-0.402***	0.281***
	(0.022)	(0.022)	(0.043)	(0.019)	(0.041)	(0.083)	(0.093)
Population	0.237	0.088	-0.315	0.522	0.698*	-0.671	1.230
	(0.260)	(0.346)	(0.728)	(0.399)	(0.403)	(1.358)	(1.476)
GDP	0.000	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CPI	0.016	-0.022*	-0.092***	0.031***	0.010	-0.138**	-0.057
	(0.010)	(0.011)	(0.024)	(0.008)	(0.026)	(0.058)	(0.040)
Constant	-1.489	1.257	3.821	-5.419	-7.510	16.706	-9.340
	(3.624)	(4.769)	(10.039)	(5.512)	(5.604)	(18.545)	(20.586)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.521	0.717	0.727	0.692	0.693	0.595	0.724
N	21502	21502	21502	21502	21502	21502	21502

Table 3 (continued)
Panel B: DiD for firms without changes in political affiliation

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Post2010 × likely-Dem.	-0.019	-0.020	0.329***	0.121*	0.217***	-0.283	0.628**
	(0.049)	(0.058)	(0.122)	(0.073)	(0.077)	(0.249)	(0.250)
Post2010 × battleground	-0.009	-0.023	-0.184**	-0.064	0.007	0.112	-0.272
	(0.036)	(0.041)	(0.090)	(0.043)	(0.084)	(0.160)	(0.191)
ROA	-0.089	-0.376***	0.187	0.092	-0.228	2.457***	-0.413
	(0.120)	(0.138)	(0.225)	(0.106)	(0.175)	(0.379)	(0.464)
Liquidity	0.139	0.269**	0.239	0.013	0.251*	0.138	0.911**
	(0.088)	(0.125)	(0.217)	(0.107)	(0.145)	(0.313)	(0.428)
Leverage	0.038	-0.190**	-0.110	-0.012	-0.001	-0.189	-0.275
	(0.080)	(0.090)	(0.143)	(0.075)	(0.120)	(0.262)	(0.299)
Size	-0.050*	-0.061**	0.104	-0.109***	-0.13***	-0.033	-0.247*
	(0.026)	(0.030)	(0.071)	(0.028)	(0.043)	(0.089)	(0.133)
Sales	-0.224***	0.105**	0.035	0.156***	0.164***	2.250***	0.236
	(0.039)	(0.053)	(0.070)	(0.040)	(0.058)	(0.142)	(0.150)
Profit margin	-0.165**	-0.179**	-0.191	-0.073	-0.141	0.865***	-0.748***
	(0.070)	(0.081)	(0.123)	(0.059)	(0.088)	(0.220)	(0.262)
Length	0.098***	-0.008	0.065	0.078***	0.133***	-0.486***	0.365***
	(0.024)	(0.025)	(0.043)	(0.023)	(0.032)	(0.071)	(0.089)
Population	0.182	-0.040	-0.558	0.533	0.706*	-0.930	0.823
	(0.270)	(0.354)	(0.725)	(0.369)	(0.400)	(1.348)	(1.391)
Constant	-0.780	3.634	11.375	-4.777	-7.128	25.846	2.323
	(3.764)	(4.933)	(10.059)	(5.143)	(5.550)	(18.736)	(19.367)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.523	0.718	0.728	0.693	0.694	0.597	0.726
N	21502	21502	21502	21502	21502	21502	21502

Panel C: DiD for firms with changes in political affiliation

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Post2010 × likely-Dem.	0.087**	0.011	0.157**	0.012	0.040	-0.057	0.307*
	(0.041)	(0.044)	(0.072)	(0.048)	(0.057)	(0.152)	(0.166)
Post2010 × battleground	-0.010	-0.005	0.044	0.055	-0.013	0.059	0.071
	(0.042)	(0.042)	(0.078)	(0.050)	(0.061)	(0.157)	(0.169)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.473	0.677	0.656	0.616	0.702	0.548	0.678
N	14897	14897	14897	14897	14897	14897	14897

TABLE 4

Corporate Culture and Geographic Shocks to Partisan Polarization

This table presents corporate culture measures for firms that are likely-Democrat and likely-Republican, given an increase in political polarization after exogenous geographic changes to polarization: entry of Sinclair Broadcasting media to an area in Panel A and increase in Republican party supporting vote shares in Panel B. Variables are defined in Appendix Table A.2. All regressions include firm and year fixed effects. Standard errors are clustered at the firm level. Standard errors are reported in parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Sinclair shock

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Sinclair_Acq × likely-Rep.	-0.084	-0.161	-0.669**	-0.215	-0.293	-0.226	-1.422**
	(0.119)	(0.121)	(0.313)	(0.193)	(0.196)	(0.480)	(0.617)
Sinclair_Acq	0.062	0.160*	0.353	0.423***	0.152	0.266	1.151**
	(0.085)	(0.096)	(0.285)	(0.159)	(0.131)	(0.285)	(0.515)
ROA	-0.091	-0.382***	0.184	0.091	-0.230	2.446***	-0.428
	(0.120)	(0.138)	(0.224)	(0.106)	(0.175)	(0.379)	(0.463)
Liquidity	0.142	0.276**	0.237	0.024	0.254*	0.159	0.932**
	(0.088)	(0.125)	(0.218)	(0.108)	(0.145)	(0.313)	(0.432)
Leverage	0.038	-0.189**	-0.109	-0.005	0.004	-0.189	-0.261
	(0.080)	(0.089)	(0.142)	(0.074)	(0.120)	(0.262)	(0.299)
Size	-0.050*	-0.061**	0.101	-0.110***	-0.133***	-0.029	-0.253*
	(0.026)	(0.030)	(0.071)	(0.028)	(0.044)	(0.089)	(0.134)
Sales	-0.224***	0.104**	0.030	0.155***	0.163***	2.252***	0.228
	(0.039)	(0.053)	(0.070)	(0.040)	(0.058)	(0.142)	(0.150)
Profit margin	-0.165**	-0.178**	-0.180	-0.068	-0.137	0.862***	-0.727***
	(0.070)	(0.081)	(0.122)	(0.059)	(0.088)	(0.220)	(0.261)
Length	0.098***	-0.008	0.067	0.079***	0.134***	-0.485***	0.370***
	(0.024)	(0.025)	(0.043)	(0.023)	(0.032)	(0.071)	(0.089)
Population	0.173	-0.104	-0.992	0.146	0.445	-0.803	-0.332
	(0.265)	(0.361)	(0.686)	(0.318)	(0.385)	(1.410)	(1.302)
Constant	-0.678	4.408	17.430*	0.535	-3.590	24.062	18.105
	(3.676)	(5.016)	(9.518)	(4.429)	(5.331)	(19.573)	(18.102)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.523	0.718	0.728	0.693	0.694	0.597	0.726
N	21502	21502	21502	21502	21502	21502	21502

Table 4 (continued)
Panel B: More polarized voters in the 2016 elections

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Rep_Polar × Post2016	-0.164*	-0.008	-0.125	0.149	-0.171*	0.326	-0.318
	(0.091)	(0.079)	(0.175)	(0.110)	(0.104)	(0.417)	(0.342)
ROA	0.075	-0.469**	0.251	-0.053	-0.129	2.480***	-0.325
	(0.165)	(0.183)	(0.265)	(0.140)	(0.226)	(0.505)	(0.573)
Liquidity	0.084	0.225	0.309	-0.050	0.350*	0.656	0.918*
	(0.122)	(0.179)	(0.270)	(0.147)	(0.205)	(0.443)	(0.548)
Leverage	-0.089	-0.386***	-0.331*	-0.095	-0.166	0.098	-1.066***
	(0.098)	(0.129)	(0.181)	(0.103)	(0.173)	(0.351)	(0.402)
Size	0.007	-0.037	0.003	-0.059*	-0.136**	-0.372***	-0.222
	(0.035)	(0.044)	(0.088)	(0.035)	(0.056)	(0.137)	(0.167)
Sales	-0.252***	0.190***	0.047	0.146***	0.119	2.432***	0.250
	(0.052)	(0.072)	(0.093)	(0.056)	(0.083)	(0.182)	(0.204)
Profit margin	-0.175*	-0.151	-0.128	-0.039	-0.268**	0.783**	-0.761**
	(0.099)	(0.111)	(0.146)	(0.075)	(0.129)	(0.329)	(0.346)
Length	0.123***	-0.031	0.169***	0.079**	0.224***	-0.460***	0.562***
	(0.031)	(0.038)	(0.059)	(0.031)	(0.045)	(0.099)	(0.127)
Population	0.322	0.201	-0.593	0.757	0.626	-1.443	1.311
	(0.524)	(0.558)	(1.136)	(0.558)	(0.775)	(2.099)	(2.237)
Constant	-3.353	0.403	12.064	-8.134	-6.702	35.334	-5.723
	(7.326)	(7.753)	(15.716)	(7.761)	(10.751)	(29.224)	(31.038)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.601	0.755	0.776	0.745	0.739	0.654	0.776
N	12402	12402	12402	12402	12402	12402	12402

TABLE 5

Political Shifts and Corporate Cultural Outcomes

This table presents results testing whether corporate cultural outcomes—proxies that Li et al. (2020) identify as statistically associated with cultural measures—exhibit similar trends in response to political shifts in power. Panel A reports the results for time-varying variables of integrity, teamwork, and innovation with firm and year fixed effects. Panel B reports results for all variables with industry, year, and state fixed effects. Variables are defined in Appendix Table A.2. Standard errors are clustered at the firm level. Standard errors are reported in parentheses beneath the coefficient estimates and clustered at the firm level. ∗∗∗, ∗∗, and ∗ indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Cross-sectional comparison of corporate culture outcomes

	(1)	(2)	(3)	(4)	(5)
	Integrity	Teamwork	Innovation	Quality	Respect
Restatements	0.029				
	(0.022)				
JointVenture & StrategicAlliance		0.076**			
		(0.033)			
Citations			0.003***		
			(0.001)		
Top Brand				0.215***	
				(0.066)	
Best Employer					0.112
					(0.140)
Controls	Yes	Yes	Yes	Yes	Yes
Industry, State, Year FE	Yes	Yes	Yes	Yes	Yes
R^2	0.131	0.425	0.322	0.227	0.303
N	36374	36374	36374	36374	36374

Table 5 (continued)
Panel B: Time-series changes in corporate culture outcomes

	Integrity	Teamwork	Innovation
$Restatements_{t+1}$ × Pol_Misalign	0.077*		
	(0.043)		
$Restatements_{t+2}$ × Pol_Misalign	0.059**		
	(0.028)		
$JointVenture \& StratAlliance_{t+1}$ × Pol_Misalign		0.016**	
		(0.006)	
$JointVenture \& StratAlliance_{t+2}$ × Pol_Misalign		-0.009	
		(0.007)	
$Citations_{t+1}$ × Pol_Misalign			-0.001
			(0.001)
$Citations_{t+2}$ × Pol_Misalign			-0.004**
			(0.001)
Controls	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
R^2	0.550	0.738	0.709
N	16945	16945	16945

TABLE 6

Cross-sectional Comparisons of Firms Given Political Alignment

This table presents measures of firm corporate culture and reports differences between likely-Democratic versus likely-Republican firms and firms in battleground states versus other firms under different presidencies. Appendix Table A.5. provides additional cross-sectional results. Variables are defined in Appendix Table A.2. All regressions include industry, state, and year fixed effects. Standard errors are clustered at the firm level. Standard errors are reported in parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1%, 5%, and 10% levels, respectively.

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Rep. Pres. × likely-Dem.	-0.024	-0.045	0.074	-0.117**	-0.145**	-0.111	-0.258*
	(0.034)	(0.043)	(0.075)	(0.047)	(0.059)	(0.128)	(0.157)
Dem. Pres. × likely-Dem.	-0.004	-0.008	0.333***	-0.072	-0.107	0.266*	0.141
	(0.038)	(0.048)	(0.087)	(0.058)	(0.070)	(0.161)	(0.182)
Rep. Pres. × battleground	-0.044	-0.015	-0.128	0.009	0.132	0.326	-0.046
	(0.058)	(0.070)	(0.105)	(0.072)	(0.099)	(0.201)	(0.235)
Dem. Pres. × battleground	0.002	-0.053	-0.057	-0.019	0.157	0.395*	0.030
	(0.062)	(0.070)	(0.113)	(0.076)	(0.106)	(0.212)	(0.249)
Elec. Year × likely-Dem.	-0.023	0.043	-0.078*	-0.028	-0.079**	-0.157**	-0.164*
	(0.026)	(0.029)	(0.040)	(0.028)	(0.035)	(0.080)	(0.089)
Elec. Year × battleground	0.049**	0.010	0.053	-0.004	0.010	-0.139**	0.120
	(0.021)	(0.024)	(0.035)	(0.021)	(0.031)	(0.069)	(0.079)
ROA	-0.573***	-1.264***	-0.503**	-0.268**	-0.334*	0.962***	-2.943***
	(0.120)	(0.136)	(0.221)	(0.128)	(0.195)	(0.366)	(0.485)
Liquidity	-0.014	1.644***	1.784***	0.184*	-0.141	0.556*	3.457***
	(0.081)	(0.107)	(0.192)	(0.103)	(0.151)	(0.295)	(0.390)
Leverage	0.067	-0.042	-0.672***	-0.198**	-0.138	-0.998***	-0.984***
	(0.058)	(0.078)	(0.136)	(0.077)	(0.105)	(0.224)	(0.284)
Size	-0.067***	-0.036***	0.034	-0.133***	-0.262***	0.298***	-0.463***
	(0.011)	(0.013)	(0.028)	(0.017)	(0.018)	(0.038)	(0.057)
Sales	-0.169***	0.336***	0.173**	0.196***	0.272***	2.585***	0.808***
	(0.036)	(0.049)	(0.080)	(0.046)	(0.070)	(0.128)	(0.169)
Profit margin	-0.151**	-0.781***	-0.147	0.099	0.174*	0.255	-0.806***
	(0.067)	(0.089)	(0.123)	(0.081)	(0.103)	(0.206)	(0.274)
Length	0.032*	-0.052**	0.328***	0.100***	0.180***	0.020	0.588***
	(0.019)	(0.021)	(0.038)	(0.024)	(0.031)	(0.069)	(0.080)
Population	0.036**	0.050**	-0.004	-0.083***	0.094***	0.069	0.092
	(0.018)	(0.020)	(0.043)	(0.025)	(0.032)	(0.065)	(0.086)
Constant	2.073***	1.530***	-0.142	2.674***	1.134**	2.915**	7.269***
	(0.359)	(0.340)	(0.692)	(0.394)	(0.568)	(1.192)	(1.506)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.131	0.421	0.322	0.226	0.303	0.190	0.354
N	36415	36415	36415	36415	36415	36415	36415

TABLE 7
Robustness

This table presents robustness tests for the main results in Table 3, Panel A. Panel A presents corporate culture measures for firms that are likely-Democrat, likely-Republican, and in battleground states given changes in political polarization using the PCI. Panel B presents corporate culture measures from shareholder meetings for firms that are likely-Democrat, likely-Republican, and in battleground states under Democratic and Republican presidencies. Variables are defined in Appendix Table A.2. All regressions include firm and year fixed effects. Standard errors are clustered at the firm level. Standard errors are reported in parentheses beneath the coefficient estimates. ∗∗∗, ∗∗, and ∗ indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Corporate culture and PCI

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
PCI ×	-0.000	-0.000	0.004***	0.002*	0.002	-0.080	0.007**
likely-Dem.	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.289)	(0.003)
PCI ×	-0.000	-0.000	-0.001	-0.000	0.000	0.096	-0.001
battleground	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.130)	(0.001)
ROA	-0.090	-0.376***	0.198	0.096	-0.219	244.47***	-0.391
	(0.120)	(0.138)	(0.224)	(0.106)	(0.175)	(37.892)	(0.464)
Liquidity	0.140	0.268**	0.227	0.009	0.246*	14.907	0.891**
	(0.088)	(0.125)	(0.217)	(0.107)	(0.145)	(31.304)	(0.430)
Leverage	0.038	-0.191**	-0.106	-0.011	0.003	-19.172	-0.267
	(0.080)	(0.090)	(0.143)	(0.075)	(0.119)	(26.224)	(0.299)
Size	-0.050*	-0.061**	0.104	-0.109***	-0.132***	-3.148	-0.247*
	(0.026)	(0.030)	(0.071)	(0.028)	(0.044)	(8.924)	(0.134)
Sales	-0.224***	0.104**	0.031	0.155***	0.164***	225.19***	0.231
	(0.039)	(0.053)	(0.070)	(0.040)	(0.058)	(14.166)	(0.150)
Profit margin	-0.165**	-0.178**	-0.187	-0.071	-0.140	86.062***	-0.741***
	(0.070)	(0.081)	(0.123)	(0.059)	(0.088)	(21.995)	(0.262)
Length	0.098***	-0.008	0.065	0.078***	0.133***	-48.64***	0.365***
	(0.024)	(0.025)	(0.043)	(0.023)	(0.032)	(7.148)	(0.089)
Population	0.202	-0.030	-0.657	0.502	0.569	-71.967	0.586
	(0.266)	(0.352)	(0.715)	(0.360)	(0.391)	(135.589)	(1.361)
Constant	-1.059	3.508	12.500	-4.435	-5.268	2283.589	5.247
	(3.704)	(4.901)	(9.920)	(5.027)	(5.433)	(1882.26)	(18.965)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.523	0.718	0.728	0.693	0.694	0.597	0.726
N	21502	21502	21502	21502	21502	21502	21502

Table 7 (continued)

Panel B: Examining culture in shareholder meetings

	Integrity	Teamwork	Innovation	Quality	Respect	Sentiment	CultureAll
Rep. Pres. × likely-Dem.	0.212**	0.054	0.239*	0.046	0.218*	-0.151	0.769**
	(0.065)	(0.029)	(0.101)	(0.025)	(0.093)	(0.792)	(0.277)
Rep. Pres. × likely-Rep.	0.338**	0.109**	0.303	0.125	0.308*	0.419	1.182**
	(0.097)	(0.045)	(0.160)	(0.077)	(0.159)	(1.122)	(0.394)
Rep. Pres. × battleground	-0.106	-0.031	-0.190*	0.004	-0.157	-2.428	-0.480*
	(0.068)	(0.042)	(0.095)	(0.045)	(0.099)	(1.477)	(0.209)
Elec. Year	0.078	0.022	0.105	0.017	0.069	-0.312	0.292
	(0.061)	(0.050)	(0.130)	(0.032)	(0.097)	(0.282)	(0.360)
ROA	0.048	-0.105	0.253	-0.034	-0.019	5.138	0.143
	(0.168)	(0.105)	(0.375)	(0.124)	(0.309)	(3.811)	(0.648)
Liquidity	0.111	-0.056	-0.088	0.267**	-0.041	-1.187	0.192
	(0.153)	(0.112)	(0.213)	(0.102)	(0.181)	(2.898)	(0.368)
Leverage	-0.023	0.154	0.535	0.172	0.201	-0.957	1.039
	(0.224)	(0.105)	(0.321)	(0.101)	(0.234)	(2.193)	(0.639)
Size	0.112	0.119**	0.010	0.026	0.183**	-2.131*	0.450*
	(0.066)	(0.046)	(0.108)	(0.037)	(0.065)	(1.093)	(0.196)
Sales	-0.009	-0.018*	0.019*	0.005	0.010	0.139*	0.007
	(0.005)	(0.008)	(0.010)	(0.005)	(0.010)	(0.060)	(0.013)
Profit margin	0.002***	-0.000	-0.003**	-0.001	0.000	-0.003	-0.002
	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.008)	(0.002)
Length	0.478***	0.267***	1.019***	0.349***	0.305**	11.776***	2.419***
	(0.088)	(0.042)	(0.137)	(0.043)	(0.105)	(1.505)	(0.229)
Population	0.117	-0.095	0.131**	0.004	0.065	-1.044	0.223
	(0.157)	(0.074)	(0.054)	(0.044)	(0.106)	(1.844)	(0.285)
Constant	-4.897*	-0.950	-8.260***	-2.507**	-2.809	-58.497	-19.423***
	(2.395)	(1.316)	(1.847)	(0.830)	(1.732)	(31.243)	(4.781)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.748	0.845	0.786	0.700	0.751	0.814	0.827
N	1432	1432	1432	1432	1432	1432	1432

CHAPTER 3

Corporate Cash Flow Outcomes Across Presidencies: Still a Presidential Puzzle

Abstract

This paper offers new economic insights into the well-known "presidential puzzle," where stock returns are lower during Republican presidencies. We examine the underlying mechanism and find that all fundamental building blocks of the free cash flows — sales growth, profit margins, and investment—are lower, while cash holdings increase, employment decreases, and payout remains unchanged during Republican presidencies. Results are significantly lower for firms in Democrat-voting areas, which explains two-thirds of our findings. We consider other cross-sectional explanations, including Congressional alignment, presidency years, exposure to government contracts, exports, and polarization. This paper documents additional real effects of the "presidential puzzle" in public firms consistent with a rational explanation for lower returns.

1. Introduction

The "presidential puzzle" literature documents higher GDP growth and stock market returns under Democrat presidents (Blinder and Watson, 2016; Pastor and Veronesi, 2020), contrary to the general survey-revealed perception of better economic performance during Republican terms (Mian, Sufi, and Khoshkhou, 2023). Yet, the understanding of the underlying mechanism behind this puzzle is limited within the broader literature. We focus on firm valuation as the underlying mechanism behind documented patterns in stock returns. In valuation, key corporate building blocks – sales growth, profitability, and investment – are aggregated into free cash flows, discounted at a rate reflecting firm risk.[46] Given the potential dominance of the cash flow effect over discount rates, we examine how key free cash flow components influence public firm valuation across presidencies from 1950 to 2021 (see Figure 1).[47] This cash flow analysis could clarify the gap between perceived and actual firm performance across presidencies, particularly if metrics like investment, profitability, employment, or payouts consistently differ.

First, we verify the findings of prior studies on equity returns and find that the corresponding corporate outcomes –market capitalization (or market value of equity) and market-to-book ratio – are lower during Republican presidencies. Next, we test for the main question – what happens to corporate cash flow fundamentals across presidencies?

[46] In a simple way, *Value* = *FCF* / (*r*-*g*), where the numerator, *FCF*, includes all cash flows of the firm, and the denominator discounts those cash flows to the present time at the appropriate discount rate, determined by the firm's cost of capital, *r*, and growth rate, *g.* Therefore, several effects matter for valuations: the cash flow effect, associated with future profitability and sales; the cash flow volatility effect, reflecting firm risk in the discount rate; and the growth rate effect, reflecting customer demand for the firm's products. This paper examines the cash flow effect and the growth rate effect. Multiple other papers examine the discount rate effect, where firm risk is often reflected through cash flow volatility. We verify that the cash flow results remain robust after controlling for cash flow volatility.

[47] See Michaely, Rossi, and Weber (2021) for signaling safety and Belo, Gala, and Li (2013) for presidential cycles.

Since free cash flows (FCF) comprises operating cash flows (OCF) and investment, we examine OCF's components, which reflect corporate profitability, the difference in revenues minus expenses. Multiple profitability measures, including operating margin and return on assets (ROA), are lower during Republican presidencies. We evaluate changes within a firm and confirm lower profitability using the DuPont breakdown.

Profitability hinges on key OCF components, as lower sales or higher expenses reduce profits. Graham (2022) highlights the importance of sales as executives "emphasize corporate objectives that focus increasingly on …. revenues." Sales growth is perhaps unmatched in its importance for firm valuation as it influences growth rate projections, both for the FCF in the numerator of the valuation equation and the overall firm growth in the denominator. We find significantly lower sales growth during Republican presidencies, even after accounting for business cycle dynamics like GDP growth. Figure 2 highlights this key result.

Despite lower sales, OCF and profitability can remain stable if balanced by lower corporate expenses. Some expenses, such as employment and tax, carry political implications, with Republicans advocating for lower taxes and Democrats favoring higher taxes and prioritizing job creation.[48] We document lower employment (and salary expenses) under Republican presidencies. Also, consistent with prior research (Reed, 2006; Pastor & Veronesi, 2020), we confirm lower taxes. However, overall operating expenses rise as a proportion of sales, preventing firms from fully offsetting sales declines and

[48] Joe Biden indicated worker support in his intention "to build an economy from the bottom up and the middle out, not from the top down": https://www.whitehouse.gov/briefing-room/speeches-remarks/2023/02/07/remarks-of-president-joe-biden-state-of-the-union-address-as-prepared-for-delivery/ Donald Trump's in 2016 proposed to cut taxes from 35% to 21%: https://taxfoundation.org/research/all/federal/details-analysis-donald-trump-tax-plan-2016/

resulting in lower profitability. Reflecting this, we find reduced operating income and OCF during Republican presidencies. To contextualize, we compare these effects to recessions. The decline in OCF and other financial metrics is more pronounced during economic downturns, causing a one-and-a-half to three times greater impact than Republican terms. From 1950 to 2021, OCF is 4.2% lower during Republican than Democrat presidencies and 7.2% lower during recessions than non-recession years. Respectively, OCF is 6.0% and 15.7% lower in the more recent 1994-2021 period. Reduced OCF, given lower sales growth and profitability during Republican presidencies, consistently serves as a mechanism contributing to lower returns, as found in the literature.

The second integral component of FCFs is reinvestment, encompassing capital expenditures and changes in working capital. Our results show that during Republican presidencies, firms reduce tangible investments and acquisitions, leading to a decline in capital expenditures and a reduction in overall assets, effectively "shrinking" the firm.[49] Combined with Blinder and Watson (2016) findings of higher economy-wide business fixed investment spending during Democrat terms, we highlight the importance of investment by publicly traded firms. However, since working capital, involving daily operations of inventory, customers, and suppliers, generally remains stable outside of significant operations innovations (e.g., just-in-time management), we document similarities in working capital investment across presidencies.

[49] Taken together, lower assets and ROA (e.g., earnings/assets) suggest that earnings decline faster than assets. Moreover, intangible investments – research and development, patents, and citations – are similar across presidencies.

We analyze firms' overall FCF by linking its key components, OCF and investment. While lower investment increases FCF, lower OCF reduces it, making the net effect dependent on the extent of the offset. Evaluating FCF is further complicated by firms' opportunistic reporting practices (Adame et al., 2023) and smoothing, as evidenced by similar FCF during recessionary and non-recessionary years. This highlights the importance of examining individual components like OCF and investment, given their impact on future operations. Building on this, we find that during Republican presidencies, lower OCF and investment result in no significant differences in current-year FCF across presidencies. However, valuation depends on future FCFs, which are influenced by sales growth. Lower growth projections under Republican presidencies suggest lower future FCFs, consistent with the lower earnings guidance we document.

All future FCFs are aggregated to find the value of the overall business, the enterprise value. Yet, stock returns and price per share are based on equity value. Equity value reflects shareholders' claim after adjusting for net debt obligations – the remainder of the firm's financial debt after a cash adjustment. While firms' debt-to-equity remains similar across presidencies, we document higher cash holdings during Republican presidencies. The higher cash holdings are consistent with our documented result of lower investment during Republican terms. Additionally, firms can positively influence investors' perceptions through higher payout. However, we find that payouts, including dividends, repurchases, and the number of shares, remain similar across presidencies.

Our detailed examination of key corporate valuation components – sales growth, profitability, investment – and further equity adjustments through net debt, cash, and payout, is consistent with the rational cash-flow mechanism behind documented lower

returns during Republican presidencies. While notwithstanding these lower returns, differences in perceptions and outcomes across presidencies could occur due to better outcomes in one or several prominent categories – higher profitability, investment, employment, or payout – we do not find support for this. Overall, the cash flow channel is an important underlying mechanism behind returns.

The "presidential puzzle" remains a puzzle not only due to disparities between economic perceptions and outcomes but also because no consistent explanation for lower returns during Republican presidencies has been empirically established despite various attempts by numerous papers. We extend this inquiry to examine whether explanations previously explored for returns offer new insights when applied to corporate cash flow outcomes. While we refrain from claiming causation, as is common in "presidential puzzle" studies, we aim to confine the impact of presidential political affiliation on corporate cash flow to a "tight box," where alternative explanations must align precisely with this affiliation.

We begin with the policy-related explanations and examine political momentum and sensitivity (see Figure 3). For political momentum, we first explore the effect of political alignment between the president and the Congress, as periods of misalignment encourage more balanced and moderate policies, potentially influencing corporate outcomes (Alesina and Rosenthal, 1995).[50] Consistent with this, we find better corporate outcomes under divided government, regardless of whether the presidency is Democratic or Republican.

[50] Internet Appendix Figure IA.1. presents a timeline of Congress party control. In Table IA.5, we also examine split Congress, following Blinder and Watson (2016). We find lower corporate metrics when Congress is split, irrespective of the president's party. Yet, outcomes remain lower during Republican presidencies outside of split Congress.

To assess political momentum across presidencies, we analyze corporate outcomes by presidential term year.[51] Outcomes deteriorate most during the second and third years of Republican presidencies, aligning with abnormal returns in the middle of presidential terms (Santa-Clara & Valkanov, 2003; Belo, Gala, & Li, 2013).

Within the political sensitivity framework, certain industries and firms benefit differently under various presidencies: industries with more government contracts perform better during Democratic presidencies, while policies favoring domestic production impact exporters and firms of specific sizes. Our analysis shows mid-size to large firms perform worst, suggesting Republican policies may favor smaller firms. However, key valuation metrics remain consistently lower during Republican presidencies, even after controlling for government contracts, exports, and net trade. These outcomes persist when examining high and low levels of these factors separately and after accounting for corporate acquisitions and executive compensation, which are influenced by policies on antitrust, disclosure, and tax. This indicates that lower corporate outcomes under Republican administrations cannot be fully explained by political momentum or sensitivity.

In addition, we examine a novel explanation for the "presidential puzzle," which posits that people feel euphoria when the ruling party aligns with their political beliefs, leading to more optimistic forecasts, higher birth rates, portfolio shifts towards equities, and increased firm investment (Kempf and Tsoutsoura, 2021; Dahl et al., 2022; Meeuwis et al., 2022; Knill et al., 2023). We hypothesize that consumer optimism and corporate outcomes would be better in areas where the population aligns with the president's party but worse

[51] Blinder and Watson (2016) show that "passed on" performance is an unlikely explanation: Republican presidents inherit initial growth rates of 4.25% and Democrat presidents 1.94%.

in misaligned areas.[52] We find that all firms experience lower corporate outcomes during Republican presidencies, with worse declines for firms in Democrat voting areas (e.g., profitability, sales growth, employment, and investment). Moreover, operating performance is lower for all firms, but especially for firms in Democrat voting areas, during Republican presidencies in the period of higher polarization. Furthermore, we find that certain corporate outcomes, OCF and employment growth, are less influenced by optimism based on political alignment in areas with balanced political views, when we examine battleground areas (Gulen and Myers, 2024). Overall, euphoric optimism provides a partial explanation, accounting for approximately two-thirds of the effect, but does not fully account for lower outcomes in Republican voting areas during Republican presidencies.

Our results are robust, accounting for various factors. Cash flow outcomes remain lower during Republican presidencies even after controlling for cash flow volatility, a proxy of firm risk. We use difference-in-difference analysis with firm and year fixed effects when comparing corporate outcomes of firms in Democrat and Republican voting areas. Our main specifications use firm fixed effects and cluster standard errors at the firm level, but our findings hold with robust standard errors and standard errors clustered at the presidential term. Results are consistent across various specifications, including controlling for the business cycle with macroeconomic indicators (GDP and CPI), using lagged control variables, interchanging between level and growth variables, and removing extreme events, such as 9/11 and COVID. To reduce the influence of young firms and ensure coverage across presidents, we confirm results focusing on firms with at least ten years of continuous

[52] Consumer optimism could be more prevalent during periods of high political polarization. Internet Appendix Figure IA.2 and Table IA.10 show worse corporate outcomes when polarization is high under all presidencies.

observations. Given the importance prescribed by the prior literature to recession and election years (see Blinder and Watson, 2016; Gulen and Ion, 2016; and Jens, 2017), we include these controls, but our results hold without them. The Internet Appendix provides further robustness checks, including analyses for the post-1994 period (excluding the Clinton administration), broader Compustat samples, and factors like political alignment and polarization.

This paper contributes to "the presidential puzzle" literature, traditionally explored through asset-pricing (Pastor and Veronesi, 2020) and macroeconomic perspectives (Blinder and Watson, 2016). We differ from prior studies as we highlight the importance of the cash flow channel: our results show a prominent consistency, as multiple measures that tie into OCF (e.g., sales growth, profitability, employment) are lower during Republican terms. Moreover, we show that during Republican presidencies, firms reduce tangible investment, including M&A, and shrink overall assets compared to Democrat presidencies. We offer two additional novel findings: firms hold more cash but retain stable payout during Republican presidencies. This study utilizes more recent data until 2021, unlike many studies ending before 2016.

Additionally, this paper contributes to the literature aiming to solve "the presidential puzzle," where numerous papers face disappointment and rule out multiple explanations. Our most promising explanation is related to optimism given political alignment with the president, therefore adding to the literature on political alignment and polarization (Kempf and Tsoutsoura, 2021; Dahl, Lu, and Mullins, 2022; Meeuwis et al., 2022; Rice, 2023). Finally, this paper adds to the literature on corporate actions during election years (Gulen

and Ion, 2016; Julio and Yook, 2012; Jens, 2017) by directly examining firm outcomes, including investment, during U.S. presidential elections.

2. Background and Literature

The "presidential puzzle" refers to higher stock returns and GDP during Democrat presidencies without a consistent explanation (for stock returns: Huang, 1985; Hensel and Ziemba, 1995; Santa-Clara and Valkanov, 2003; Pastor and Veronesi, 2020; for macroeconomic perspective: Alesina and Rosenthal, 1995; Alesina, Roubini, and Cohen, 1997; Drazen, 2000; Blinder and Watson, 2016). Potrafke (2018) reviews multiple examined explanations across U.S. Democrat and Republican government ideologies. For example, Blinder and Watson (2016) examine GDP growth from 1945 to 2012 and rule out explanations of monetary and fiscal policy, technical time series, defense spending outside of the Korean War, inherited growth rates, and split Congress periods. They link higher GDP to more benign oil shocks, better productivity, a stronger international environment, and optimistic consumer expectations. Santa-Clara and Valkanov (2003) examine stock market returns from 1927 to 1998 (extended to 2015 by Pastor and Veronesi, 2020) and reject explanations related to business cycles (e.g., default spreads, interest rates, and dividend payouts), firm size, and risk premiums (since market volatility is higher, not lower, during Republican presidencies). They attribute higher stock market performance during Democrat presidencies to unexpected returns, implying the market is consistently positively surprised by Democratic policies.

Adding to this literature, Belo, Gala, and Li (2013) find stock returns across presidencies vary mainly due to the cash flow effect rather than the cash flow volatility

effect. Notably, exposure to government spending partially explains returns: firms with more government contracts have higher returns during Democrat presidencies but lower during Republican presidencies. Multiple asset-pricing papers expand the cross-sectional examination of the "presidential puzzle," finding higher returns for firms whose returns are less correlated with presidential economic approval rating (Chen, Da, Huang, and Wang, 2023), firms making more political donations (Cooper, Gulen, and Ovtchinnikov, 2010), industries with higher exposure to trade and labor (Boutchkova et al., 2012), firms in politically aligned states (Kim, Pantzalis, and Park, 2012), and industries with higher political sensitivity (Addoum and Kumar, 2016). Exploring the broader democratic process, Miller (2024) shows that successful international democratizations lead to increased risk premia and lower asset valuations due to higher competition, reduced inequality, and lower corruption. Notably, equity premia is higher during periods of political misalignment between Congress and the White House (Papamichalis, Ryu, and Wilson, 2024). Political factors also influence return volatility, with higher volatility in industries with exposure to political events (Boutchkova et al., 2012) and increased risk premiums during high political uncertainty (Pastor and Veronesi, 2013).

Pastor and Veronesi (2020) provide a theoretical explanation for the "presidential puzzle" based on risk aversion cycles that naturally arise before elections.[53] They confirm their predictions using U.S. data, showing that Democratic voters are more risk-averse and that risk aversion, which is the risk attitude, declines during Democratic presidencies (e.g.,

[53] In their model, high risk aversion leads to higher future returns and the election of Democrat presidents who promise redistribution. As risk aversion declines, voters prefer more business risk and elect a Republican president, who wins when future expected returns are low. An explanation for why risk-aversion cycles occur naturally remains a question for future research. Additionally, Pastor and Veronesi (2020) provide an international perspective: returns are higher in Australia, Canada, France, Germany, and the UK when a Democrat is a U.S. president.

risk attitudes change after elections). Importantly, they focus on periods immediately before presidential elections where a Republican replaces a Democrat and vice versa. We do not focus on periods directly before the transition of political power. Although we account for election years, we mainly consider overall presidential terms and corporate performance across presidencies.

Election years have also been highlighted in the literature, but findings for corporate investment are mixed. Gulen and Ion (2016) find no significant changes in U.S. firms' investment during election years, while Julio and Yook (2012) document a decline in international samples. High political uncertainty in these samples may explain the difference. Gulen and Ion (2016) show U.S. firms reduce investment during periods of heightened uncertainty, which is higher during election years (Kelly, Pastor, and Veronesi, 2016). Additionally, Jens (2017) finds that firms invest less in states with gubernatorial elections. Election years also impact corporate employment decisions. Faccio and Hsu (2017) and Bertrand et al. (2018) show that politically connected firms increase employment around elections to help incumbents. Furthermore, elections with Republican electoral wins exhibit more positive stock reactions (Santa-Clara and Valkanov, 2003; Snowberg, Wolfers, and Zitzerwitz, 2007), partly due to lower tax expectations (Reed, 2006). However, stock market performance is better during non-election years under Democrat terms (Santa-Clara and Valkanov, 2003; Belo, Gala, and Li, 2013). Given the importance of election years, our analysis accounts for these periods. Therefore, we add to this literature by examining corporate outcomes, including investment and employment, during election years. Besides election years, crisis years are important, as firms with government connections perform better due to implicit guarantees and easier access to

credit (Borisova et al., 2015; Goldman, 2020).[54] Our results are robust to including and excluding recession controls.

Finally, the literature has proposed an over-optimism/euphoria/sentiment explanation for the "presidential puzzle." Chen et al. (2023) suggest that the market is consistently positively surprised by Democratic policies (these surprises are also noted in Santa-Clara and Valkanov, 2003; Blinder and Watson, 2016). They model how sentiment investors (under)overestimate future earnings based on (mis)alignment with the presidential economic policies, with mispricing corrected at earnings announcements. Overall, partisan differences and euphoria can impact corporate behavior, as political beliefs shape interpretations of the world. For example, political alignment influences family expansions, housing transactions, analyst ratings, and banker loan spreads (Dahl, Lu, and Mullins, 2022; McCartney, Orellana-Li, and Zhang, 2024; Kempf and Tsoutsoura,2021; Dagostino, Gao, and Ma, 2023, respectively). Also, Meeuwis et al. (2022) show that investors adjust portfolios based on political views, with likely-Republicans favoring equity and likely-Democrats rebalancing with safer assets after the 2016 U.S. presidential election, and Knill, Liu, and McConnell (2022) document higher investment by Republican firms during Bush's presidency, particularly in areas with Fox News introductions. We contribute by the performance of firms located in politically (mis)aligned areas with the president.

[54] Goldman (2020) finds that U.S. firms with government contracts had larger market capitalizations, sales, employment, and investment during the 2008 crisis, opposite to prior similar outcomes for all firms. Government connections also occur through political connections and donations. Such firms often have lower profits and returns (Faccio, 2006; Bertrand et al., 2018) but are more likely to receive government bailouts (Faccio et al., 2006).

3. Empirical Design

3.1. Data

We collect presidential voting data from various sources, including the Institute for Social Research (ICPSR)[55], the MIT Election Lab[56], and local government websites. Our data is limited to a timeframe that aligns with the availability of Compustat data, which extends back to June 1950. We gather firm accounting information from Compustat. Innovation information is from Kogan et al. (2017).[57] To identify firm headquarters, we utilize headquarters data from the University of Notre Dame[58], which provides information from the 10-K and 10-Q headers from 1994 to 2021. We exclude financial firms, banks, utilities (SIC codes 6000-6999 and 4900-4949), and any observations missing total asset or sales variables. We winsorize the accounting variables at 1% and profitability measures at 5%. We collect guidance for earnings per share from I/B/E/S starting in 1992. We collect the Partisan Conflict Index (PCI) from the Federal Reserve Bank of Philadelphia to examine the different degrees of polarization impacting the firm.[59] We collect the House of Representatives and Senate seats from government websites to identify split Congress.[60]

To examine the "presidential puzzle" at the firm level, we examine various corporate outcomes. The main variables of interest are the market value of equity, profitability, sales and expenses, FCF and its components, liquidity, and innovation. Specifically, we examine

[55] https://www.icpsr.umich.edu/web/pages/
[56] https://electionlab.mit.edu/
[57] https://host.kelley.iu.edu/nstoffma/
[58] https://sraf.nd.edu/sec-edgar-data/
[59] https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/partisan-conflict-index
[60] House of Representatives: https://history.house.gov/Institution/Party-Divisions/Party-Divisions/
Senate: https://www.senate.gov/history/partydiv.htm

Return on Assets (ROA) and Return on Equity (ROE) for profitability. We also utilize the DuPont breakdown of ROE and examine profit margin, asset utilization efficiency, and leverage. To examine sales, we use sales growth and CPI-adjusted log of sales, and for expenses, we examine operating expense over sales, income tax over pretax income, and employee growth proxying for salary expense. We also examine operating income growth. We use growth in OCF, capital expenditures, assets, acquisitions, R&D, NWC, and the overall FCF to examine free cash flow-related variables. We use cash and equivalents as a proportion of total assets when measuring liquidity. Additionally, we present results using the level measures of these variables in the robustness section. We also test for innovation using an annual number of patents, average citations, and average real dollar value of innovation. Detailed variable descriptions are in Appendix Table A.1.

3.2. Empirical Specification

Our goal is to examine how corporate cash flow-related outcomes differ across Republican and Democrat presidents. As cash flows and sales growth form the base of firm valuation, which is fundamental for stock returns, we aim to examine the mechanisms behind stock returns, which have been extensively examined by the extant "presidential puzzle" literature and documented to differ for each presidency (e.g., higher returns during Democrat presidencies). To analyze the difference within a firm between presidencies of each party, the main empirical specification uses firm fixed effects, and we estimate:

$$\boldsymbol{Firm\_Outcomes_{i,t} = Rep\_Pres_t + Elect\_Year_t + Firm\_Controls_{i,t} + Firm_i + \delta_{i,t}} \quad \textbf{(1)}$$

where $Firm\_Outcomes_{i,t}$ are the corporate outcome variables described in section 3.1 for firm i for year t and $elec\_year_t$ represents election years. Rep_Pres_t is an indicator variable for years of Republican presidencies: Eisenhower, Nixon, Reagan, H. W. Bush, W. Bush, and Trump. We separately control and examine election years because, within the year, the incumbent president is still in power while a new president is elected; thus, the years can be considered politically dynamic. $Firm\_Controls_{i,t}$ includes controls at the firm-level, which includes book-to-market, book leverage, firm size, and years of recession. $Firm_i$ are firm fixed effects. Standard errors are clustered at the firm level, which we later verify with robust standard errors. In the robustness section, we consider a variety of additional specifications and control variables, including business cycle macroeconomic variables, such as GDP and CPI.

To examine possible explanations, we assess how corporate outcomes differ for firms located in politically (mis)aligned areas. We estimate:

$$\boldsymbol{Firm\_Outcomes_{i,t} = Rep\_Pres_t * Pol\_Factor_{i,t} + Elect\_Year_t + Firm\_Controls_{i,t} + Firm_i\ (+Year_t) + \varepsilon_{i,t}}$$

(**2)** where $Pol\_Factor_{i,t}$ accounts for political alignment. We use an indicator variable for firms headquartered in politically aligned counties, areas that voted for the elected president, and whose voters and consumers are, therefore, more optimistic. Following Meeuwis et al. (2022) we title firms from aligned areas as likely-Democrat, when the majority election vote goes to a Democrat president, and likely-Republican, when the majority vote in the county goes to the Republican president. The interaction Rep_Pres_t with $Pol\_Factor_{i,t}$ allows us to assess how firms in politically (mis)aligned areas differ in

corporate outcomes during Republican presidencies compared to Democratic presidencies. In addition to firm fixed effects, we add year fixed effects for certain tests. We also examine partisan polarization as another $Pol\_Factor_{i,t}$.

3.3. Descriptive Statistics

Table 1 provides summary statistics. Panel A presents the number of observations, minimum, mean, median, 25th and 75th percentile, and standard deviation for various accounting variables and measures of corporate performance from the mid-1990s to 2021.[61] Table 1, Panel B shows the means and medians separately for the terms of Democrat and Republican presidencies and likely-Democrat and -Republican firms. Table 1, Panel C presents mean differences across presidencies for the firm market value of equity, profitability, and FCF measures for the sample starting in the mid-1990s. (Internet Appendix Table IA.1 provides consistent results starting in the 1950s, alongside results for sales growth without recessions.)

Table 1, Panel B results show that corporate outcomes are better during Democrat than Republican presidencies. This is consistent with firm cash flow-related outcomes serving as a mechanism behind higher stock returns during Democrat presidencies, documented by the prior literature. For example, firms experience higher sales growth during Democrat presidencies versus Republican presidencies (e.g., 14.9% versus 11.2%). The differences

[61] Internet Appendix Table IA.2 provides the total number of unique firms starting in the 1950s, presented in approximately 10-year buckets. Consistent with Doidge, Karolyi, and Stulz (2017), the number of publicly traded firms increased from the 1950s, reaching its peak within the 1993 to 2000 period, followed by a gradual decline. After 1993, firm location data is more reliable, and we present annual unique firm numbers for likely-Republican and likely-Democrat firms. We observe more firms in counties that predominantly support Democratic presidents in recent years. This trend in increasing likely-Democrat firms is similar to Bonaparte (2020), who finds that more CEOs are aligned with the Democratic party using donation data from the Federal Election Committee.

are statistically significant: Panel C shows significantly higher OCF, investment, and profitability during Democrat presidencies between 1994 and 2021. However, in univariate tests, we find that market valuation, proxied by the log of market value of equity, is somewhat larger during Republican presidencies. As t-tests do not consider or control for potential firm-specific characteristics, in the next section, we re-examine changes in the corporate outcomes within firms during different presidencies in a multivariate regression setting while controlling for various firm characteristics.

4. Results: Corporate Outcomes

This section presents our main results, where, at the firm level, we compare key FCF components, OCF and investment, between Republican and Democrat presidencies. For OCF, we examine sales, expenses, and the resulting profitability. For investment, we examine tangible investment in CapEx, acquisitions, and working capital. We then examine the adjustments applied to the FCF-based enterprise value in the conversion to equity value: financial debt, equity, and payout. Our corporate outcome regressions use equation (1).

4.1. Different Presidencies and OCF: Sales Growth, Expenses, and Firm Profitability

Santa-Clara and Valkanov (2003) and Pastor and Veronesi (2020) document lower stock market returns under Republican presidencies, known as the "presidential puzzle." Since the market value of equity directly reflects stock price fluctuations, we first compare firms' market equity values across presidencies to assess the conformity between corporate and asset pricing results. Table 2 presents the results from 1994 to 2021 in Panel A and

from 1950 to 2021 in Panel B. This layout appears in Tables 2 to 5. Panel A presents results for a more recent period and provides consistency with later results requiring location information. Table 2, Panel A results show that valuation, measured by the log of the market value of equity, is lower during Republican presidencies than during Democratic presidencies. Specifically, from 1994 to 2021 (from 1950 to 2021), the log of market value is -0.051 (-0.061) lower. We also note that market value is lower during election years and especially recessions. This result on the market value of equity is consistent with the stock return findings reported in the prior "presidential puzzle" studies.

Next, we examine our first corporate outcome, profitability. In Table 2, we present results for multiple profitability measures and find that firms experience lower profitability during Republican presidencies: operating margin (-0.074), ROA (-0.040), and ROE (-0.025). We apply the DuPont decomposition to pinpoint which ROA and ROE components contribute most to these changes. Generally, lower ROE is due to lower profitability, efficiency, or leverage. We find that ROA and ROE are decreasing mostly due to lower profit margins, which are consistently lower during Republican presidencies by 1.2% between 1994 and 2021 and 0.8% between 1950 and 2021. Overall, our findings show lower corporate profitability under Republican administrations. To disentangle the mechanism contributing to the lower profitability during Republican presidencies, we examine factors directly impacting profitability, sales and expenses.

Table 3 presents the analysis of sales, expenses, and OCF. Sales forecasts are the basis for future projections and, therefore, valuation. Sales growth is lower by approximately -3.4% during Republican versus Democratic presidencies over the 1994-2021 period (and approximately 1.5% lower over the 1950-2021 period). Sales are lower in percentage and

dollar terms, as the log of CPI-adjusted sales is 0.5% lower during Republican presidencies, albeit insignificant, over the 1994-2021 period and 2.9% significantly lower over the 1950-2021 period.

Table 3 also presents the results of expenses, including two categories of expenses highlighted by political campaigns: taxes and labor-related costs. The results show that lower corporate taxes, more often promised by Republican presidents, indeed occur, as firms pay out a lower proportion of their income in taxes, by approximately 2.7%, during Republican presidencies. The lower tax expense helps offset some of the decline in sales. Since firms can offset sales declines by reducing other expenses, we examine whether firms reduce employment, as salaries, a variable expense, constitute a large part of operating expenses. Our results are consistent with lower salary expenses during Republican presidencies, as employee growth rates are 5.1% lower.

While some expenses, such as salary-related expenses, are variable and easier for firms to reduce, others are fixed and more difficult to reduce. Next, we examine firms' overall expenses, encompassing fixed and variable expenses, and find they become a higher proportion of sales, by approximately 7.4%, during Republican presidencies after the mid-1990s. We also find that the expense most directly related to the production of a firm's products, costs of goods sold or COGS, becomes a higher proportion of sales. This helps verify that the increase in overall operating expenses is not solely due to severance pay. Given the lower sales and the challenges firms face in reducing their overall expenses, we expect firms to have lower operating incomes and OCF during Republican terms. Consistent with this hypothesis, OCF is -6.0% (-4.2%) lower during Republican than

Democrat presidencies from 1994 to 2021 (1950 to 2021).[62] To gauge the magnitude of lower OCF, we compare it to OCF during recessions of 15.7% (7.2%). Overall, during Republican presidencies, firms experience lower sales and expenses that do not fully offset the decrease in sales, ultimately hurting firm profitability. Lower OCF and sales growth are consistent with rational mechanisms for lower returns, as documented by the "presidential puzzle" literature.

4.2. Different Presidencies and Investment

FCF comprises OCF and investment; Table 4 presents our investment analysis, which includes capital expenditure growth, asset growth, and acquisitions. We find that firms have lower capital expenditures for the more recent period since the mid-90s (-11.6 %) and the longer period since the 1950s (-6.2%). Investment reductions during Republican presidencies are proportional to about one-third of recession-related investment reductions: -11.6% versus -35.3% between 1994 and 2021. Moreover, we find that firms spend less on acquisitions, which is consistent with the overall reduction in investment during Republican presidencies. Lower capital expenditures and acquisitions imply that firms invest less in the growth of their assets. According to Graham (2022), firms with lower sales and revenues may choose to reduce investment and "shrink" assets. In his survey, executives emphasize that sales significantly influence investment allocations in practice. We confirm firms experienced a 5.3% lower asset growth during Republican presidencies. Overall, we document declines in firms' tangible investment during Republican presidencies.

[62] Regressions with the level measures of variables examined in this table are included in the robustness section.

However, firms could substitute tangible investment with intangible investment, which became especially important in the mid-1990s due to rapid technological developments and innovation. Firms' innovation investment is generally measured using expenditures on Research and Development (R&D) as a proportion of Sales or Total Assets. Given the decline in sales and assets during the Republican presidencies, we use an alternative measure to convey the actual R&D investment: R&D expenditure growth. We find that unlike reductions in tangible investment during Republican presidencies, firms do not significantly reduce R&D expenditure growth. Results are similar using the annual number of patents, average citations, and annual innovation value, as defined by Kogan et al. (2017). Therefore, corporate R&D investment continues even in periods of lower profitability and sales during Republican presidencies.

The final FCF component, the change in net working capital, examines changes in firms' day-to-day operating decisions regarding inventory management and customer and supplier credit. Consistent with day-to-day operations' stability (e.g., changes occur rarely and mainly around major innovations, such as just-in-time inventory), our results show that firms engage in similar working capital management under the leadership of presidents from either the Republican or Democratic parties. Therefore, FCF could either increase, decrease, or stay the same, depending on the proportional changes in OCF and tangible investment.

Overall, we expect FCF to change according to how much investment reductions can offset lower OCF. However, evaluating FCF is complicated due to several factors. First, Adame et al. (2023) show that firms opportunistically choose their reported FCF definitions. Depending on the definition used, this could significantly alter the reported

FCF measure. Second, firms can opportunistically smooth out FCF. Our results are consistent with smoothing, as we document similar FCFs during recessionary and non-recessionary years. These challenges with the FCF measure highlight the importance of understanding the individual components of FCF, especially OCF, and investment, given their influence on firms' future operations. Overall, we document lower OCF and lower investment, and as they offset each other, concurrent FCF remains similar across different presidencies. While we document the current year FCF, future FCFs generally influence the valuation equation's numerator. Given the declines in sales growth and the associated lower future growth rate projections for FCFs, we highlight the importance of sales growth and its influence on future forecasted FCFs. Consequently, we attempt to examine future forecasts.

To address this analysis, we use the U.S. firms' IBES guidance sample for observations with available CUSIP identifiers, which allow us to match IBES data to Compustat. IBES earnings per share (EPS) guidance data is available starting in November of 1992. We document lower future earnings guidance during Republican presidencies. As such, we still maintain the importance of the cash-flow channel for firm equity valuation during Republican presidencies. Overall, we examine various cash flow-related corporate outcomes contributing to firm valuation.

4.3. Different Presidencies and Adjustments to Equity Value

FCFs, in today's dollars, are aggregated into enterprise value, which represents the value of the whole business. However, equity holders claim what remains after net debt repayment – the equity value. Since net debt is financial debt remaining after what can be

settled with firms' current cash, we examine both cash holdings and financial debt. Table 5 presents these results.

We find debt-to-equity ratios remain similar across presidencies, consistent with firms not altering their capital structure mix. However, changes in cash depend on OCF, cash cycles, investment, and firms' financing choices. Lower OCF during Republican presidencies suggest lower cash *inflow* and lower investments reflect lower cash *outflow*. Reflecting these opposite effects, Table 5 results show that firms consistently hold higher cash balances during Republican presidencies, confirming their preference for liquidity. Specifically, corporate liquidity is 0.5% higher during Republican presidencies compared to Democrat presidencies. While most previous corporate results during Republican presidencies were directionally similar to corporate outcomes in recessions (e.g., lower sales, OCF, investment), liquidity increases during Republican presidencies are the opposite of liquidity reductions during recessions. In summary, our analysis reveals that firms increase liquidity during Republican presidencies. One mechanism for this increased liquidity is reduced investment over the same time period(s).

Table 5 also presents results on payout. We follow Kahle and Stulz (2021) and examine net payout, comprising dividends, repurchases, and issuance. As Kahle and Stulz (2021), we scale net payout by operating income. We find that payout remains similar across presidencies. This result is for all firms and only firms that have had positive net payout. In untabulated results, we find no significant difference in dividends or repurchases across presidencies. In summary, our analysis reveals similarities in payout and debt ratios across presidencies. On the contrary, firms increase cash holdings during Republican presidencies.

4.4. Corporate Outcomes during Election Years

In our analysis of corporate outcomes under different presidencies, we control for election years, given that several papers have documented diverging corporate decisions during election years (Julio and Yook, 2012; Faccio and Hsu, 2017; Bonaime, Gulen, and Ion, 2018). We describe our election year results here. We find lower market valuation of equity and profitability during election years. In contrast, firms increase OCF, investment, employment, and asset growth. Yet, when comparing election and non-election years, we do not find consistent differences in cash holdings, payout, and working capital-related operating activities. This complements extant literature examining election year corporate investment in international samples (Julio and Yook, 2012), in periods of increased political uncertainty (Gulen and Ion, 2016), and during gubernatorial elections (Jens, 2017). In contrast to these studies, we examine U.S. elections, utilize a longer period through 2021, and find that U.S. firms increase investment, on average, during election years. Overall, corporate outcomes differ between election and non-election years.

5. Explaining the "Presidential Puzzle" Corporate Outcomes

As we turn our attention to explanations of corporate outcomes for U.S. publicly traded firms across presidencies, we condense outcomes considered in detail in Tables 2 to 5 to a subset of key outcomes: market value of equity, profitability, sales, taxes, employment, and main FCF components: OCF and investment. We examine policy explanations and explanations related to over-optimism when one's political party is in power.

5.1. Policy-related Explanations

For policy-related explanations, we examine the impact of Congress alignment on corporate outcomes and their distribution over the years of the presidential term. We also investigate industries in which presidential policies could be more influential. Given that presidential policies may favor firms of a certain size, we also examine whether and how our results vary with firm size. Additionally, we consider corporate acquisitions and executive compensation explanations, which likely vary with preferential political policies.

5.1.1. Political Momentum: Split and Aligned Congress

Blinder and Watson (2016) posit that Congress, not the president, is assigned monetary and various domestic powers by the U.S. Constitution. Therefore, they examine whether lower GDP during Republican presidencies is mainly due to the influence of Congress but find that not to be the case. Moreover, Alesina and Rosenthal (1995) emphasize the examination of political party alignment between the President and the Congress, given the influence of this alignment on enacted bills and policies. We utilize a similar test and examine political alignment between Congress and presidents (e.g., a Republican president and Democrat control of Congress, both House and Senate). This analysis allows us to gain deeper insights into how changes in corporate outcomes vary when the additional influence of political alignment between the parties controlling the White House and Congress. Table 6 presents these results for 1994-2021 in Panel A and 1950-2021 in Panel B. For this analysis, we exclude split Congress years (e.g., when the House is controlled by one party but the Senate by another), as determining alignment during a split Congress presents challenges in interpretation. Internet Appendix Tables IA.5 and IA.5 provide additional results with various Congressional specifications, including all years and split Congress.

Table 6, Panel A results reveal that firms tend to perform less favorably during periods of political alignment between the president and the Congress (e.g., Republican presidencies accompanied by Republican control of the Congress). During Republican alignment, firms experience lower market value, profitability, sales growth, employment, OCF, and investment. However, firms simultaneously benefit from reduced expenses, including lower taxes and employee-related costs such as salaries. Also, lower investment during Republican presidencies with Republican Congress compared to periods of misalignment, by 10.4%, allows firms to hold on to cash. Yet, corporate valuation-related outcomes are also worse during periods of alignment between the Democrat president and Congress. Sales growth is 3.5% lower during Democrat alignment compared to misalignment. However, profitability, OCF, and investment are similar during Democrat presidencies regardless of who politically controls Congress from 1994-2021. Longer-dated results over 1950-2021, in Panel B, reveal higher profitability, employment, OCF, investment, and taxes during Democrat Presidencies with Democrat Congress as compared to periods of non-aligned Congress. This suggests that corporate outcomes deteriorated during Democrat alignment between Congress and the White House in the 1994-2021 period compared to the 1950-2021 period. In other words, political misalignment with Congress during Democrat presidencies is associated with more positive outcomes in the more recent 1994-2021 period. In contrast, corporate outcomes are similar under Republican presidencies with misaligned Congress over both timeframes.

Overall, we find more positive corporate outcomes for periods of political misalignment between the president and the Congress (e.g., a Republican president and a Democrat Congress). This is consistent with the more moderate policies enacted during the periods

of political misalignment between the president and Congress, benefiting firms, on average. Our analysis sheds light on the nuanced interactions between presidential administrations, congressional dynamics, and their impact on firm outcomes. However, political alignment between Congress and the White House cannot fully explain lower valuation-related corporate outcomes during Republican presidencies.[63]

5.1.2. Political Momentum: Comparing Presidential Years within a Presidency

Corporate outcomes may be lower during certain years within a presidency. Understanding this variation could help explain the "presidential puzzle." For example, Belo, Gala, and Li (2013) examine differences in stock returns across presidential terms and years and document that abnormal excess returns during Democrat presidencies are focused during the middle of the term, after a likely resolution of policy uncertainty. Indeed, drawing inferences during the first and last (election) years of presidencies is complicated. In the first year, it could be difficult to disentangle the influence of the performance "passed on" since the prior presidency from the changes newly elected leaders implement in the "first 100 days." Similarly, the election year could be challenging for policy inferences due to higher political uncertainty. While we recognize these difficulties, Table 7 presents results for corporate outcomes in the first, second, third, and fourth / election years of the presidency in Panels A-D, respectively. In other words, we compare each year in the first term to the rest of the years of the presidency. Overall, we observe higher sales growth and investment during the first and fourth (election) years but lower sales growth and valuations during the second and third years of Republican presidencies than Democrat presidencies.

[63] Appendix A.4 presents results for split Congress, associated with less favorable corporate outcomes, irrespective of the presidential party. Performance remains lower during Republican presidencies with split or non-split Congress.

Therefore, lower corporate outcomes during Republican presidencies occur during the term's middle years.

5.1.3. Political Sensitivity: Government Exposure, Exports, and Firm Size

Some industries may benefit from policy favoritism. For example, Belo, Gala, and Li (2013) document higher stock returns for firms in industries with more government exposure, mainly during Democrat, not Republican, presidencies. Following Belo, Gala, and Li (2013), we use BEA Input-Output tables to identify government exposure and investigate whether lower corporate outcomes during Republican presidencies are specific to industries with more government contracts. Results in Table 8, Panel A show that corporate cash flow metrics remain lower during Republican presidencies, even after controlling for government exposure. This trend persists for firms in industries with low and high government exposure, separately examined and presented in Internet Appendix Table IA.7.

Moreover, we examine whether corporate outcomes differ for firms with exports. While firms with significant exports might be more shielded from domestic politics, certain policies may favor domestic production. Following the approach of Mian and Sufi (2014) and Tian (2018), we utilize BEA Input-Output tables to determine industry-level exports and net exports. Table 8, Panel B presents corporate cash flow-related outcomes while controlling for exports. We continue to find lower firm outcomes during Republican presidencies. Therefore, a firm's exposure to exports does not explain why firm cash flow-related outcomes are lower during Republican terms. Internet Appendix Table IA.7 provides separate results for firms in industries with low exports, high exports, and results

given net trade (e.g., exports adjusted by imports). In all settings, we continue to find lower corporate outcomes during Republican presidencies.

Finally, in Table 9, we examine whether corporate outcomes across presidencies vary with firm size. Presidential policies may favor firms of a certain size. For instance, politicians often emphasize their support for small businesses during election campaigns. Yet, most of the political campaign financing is sponsored by large companies, especially since the 2010 Citizens United ruling, which allowed more corporate money in politics. Therefore, politicians who want to continue receiving support from large corporations may introduce policies that favor such firms. We find the lowest corporate valuation outcomes for mid-size and largest firms but better outcomes for smaller firms during Republican presidencies. For example, in terms of investment, proxied by capital expenditures, we find the following during Republican presidencies, as compared to Democrat presidencies: insignificant differences for small firms, 5.7% lower investment for mid-size firms, and 4.3% lower investment for the largest firms. Small firms also exhibit insignificant differences across presidencies for profitability, sales, and employment but experience lower valuation, OCF, and higher tax rates during Republican presidencies.[64] For mid-size and large firms, we find significantly lower equity values, profitability, sales, taxes, employment, OCF, and investment during Republican terms. Overall, mid-sized and large firms exhibit lower cash flow-related metrics than small firms during Republican presidencies.

[64] Tax rates are lower during Republican presidencies, as compared to Democrat presidencies, for all firms – small, mid-sized, and large – in the more recent 1994-2021 period. Results are the Internet Appendix Table IA.8.

In summary, we examine whether policy-related explanations, some of which were previously examined for "presidential puzzle's" returns, could provide novel insights when applied to the corporate cash flow analysis. We consider Congress control, presidential term years, firms in industries with greater government exposure, larger exports, and firms of different sizes. Furthermore, in the robustness section, we investigate whether corporate acquisitions or executive compensations, which political policies may influence, can account for our findings. While the policy-related settings we examine provide interesting results, they cannot fully explain lower corporate cash flow-related outcomes during Republican presidencies.

5.2. Optimism-related Explanations

Next, we examine the over-optimism explanation: we ask whether firms headquartered in Democrat and Republican voting areas experience similar outcomes during different presidencies and consider the influence of political polarization. We use the more recent period spanning from 1994 to 2021 due to the availability of more reliable headquarters location data for this timeframe.

5.2.1. Optimism: Likely-Republican and Likely-Democrat Firms

Table 10 presents results on corporate outcome differences for likely-Democrat and likely-Republican firms across different presidencies. Prior literature shows consumer optimism is higher during political alignment; therefore, we expect better corporate outcomes during such times. We define the likely political leaning of firms following Meeuwis et al. (2022), using the presidential voting outcomes of the county where the firm is headquartered. Since firm headquarters location data is the most reliable post-1994, we

present results for the 1994-2021 period. Table 10 presents these results. Panel A presents results using equation (1) with firm fixed effects to examine the distinct changes over time for likely-Democrat and likely-Republican firms. In Panel B, we use equation (2) with firm and year fixed effects; these two-way fixed effects allow us to test the difference between presidencies along with the differences in firm political stances.

Table 10, Panel A results show that both likely-Democrat and -Republican firms experience lower equity market valuation and sales growth during Republican terms. However, these outcomes are lower for likely-Democrat firms versus -Republican firms: -6.3% vs. -1.9% in market valuation of equity and -3.7% vs. -2.0% in sales growth. For profitability, we find that only likely-Democrat firms exhibit a statistically significant decrease, while likely-Republican firms exhibit a statistically insignificant increase. Overall, politically aligned firms – likely-Republican firms during Republican presidencies – experience somewhat better, while still lower, equity valuation, sales growth, and profitability. In terms of expenses, all firms experience lower tax rates and salary expenses, given employment reductions. We also document that likely-Democrat firms have lower OCF and investment during Republican presidencies compared to likely-Republican firms.

While Table 10, Panel A results show that corporate cash flow outcomes are lower during Republican presidencies for both likely-Republican and likely-Democrat firms, we want to understand whether there are significant differences across these firm types. In other words, do likely-Democrat firms have significantly lower sales growth (profitability, etc.) during Republican presidencies, compared to Democrat presidencies, than likely-Republican firms? Answering this question, Table 10, Panel B reports 1% lower sales growth for likely-Democrat firms in a difference-in-difference analysis with firm and year

fixed effects. So, while all firms, on average, experience lower sales growth during Republican presidencies, likely-Democrat firms experience significantly lower sales growth compared to likely-Republican firms. Likely-Democrat firms also experience significantly lower market valuations, profitability, employment growth, and investment than likely-Republican firms during Republican presidencies. While OCF and taxes are also lower, the differences based on firms' political affiliations are insignificant.

We document that firms from areas that vote Democrat experience worse corporate outcomes during Republican presidencies than firms in Republican-voting areas. In Internet Appendix Table IA.9 we provide additional results on political alignment and show that firms in areas with more balanced voting (e.g., close to 50/50) are less subject to over-optimism associated with political alignment, especially for OCF and employment growth. Therefore, political alignment between the acting president and the firm is important for corporate outcomes. Yet, political alignment cannot fully explain lower corporate cash flow metrics across presidencies because we continue to find that these metrics are lower for both Democrat and Republican firms.

5.2.2. Optimism: Political Polarization

We are also interested in understanding the effect of increasing political polarization on corporate outcomes. Using the Partisan Conflict Index (PCI) by Azzimonti (2018), we identify a shift in the U.S. political polarization (see Internet Appendix Figure IA.2): a significant and permanent increase in 2010, with the average PCI around 88.27 before 2010 and 147.13 after 2010. Azzimonti (2018) differentiates between the partisan conflict index and polarization for short-term fluctuations but shows that they align in the longer-term. Since our analysis focuses on long-term comparisons (e.g., before and after 2010), we

interpret the results using both terms, partisan conflict and polarization. We want to understand whether and how this shift in U.S. political polarization impacts corporate outcomes in general and given political alignment. Table 11 presents the results over the 1994-2021 period to facilitate an equal comparison of years in the pre- and post-2010 period and Internet Appendix Table IA.10 offers longer timeframe results.

In Table 11, Panel A, corporate outcomes are consistently lower when political polarization is higher: higher PCI is related to worse corporate performance. This result is echoed in Table 11, Panel B, where we present results for how corporate outcomes differ between periods of low and high political polarization (e.g., before and after 2010). We document significantly lower corporate outcomes after the increase in polarization regardless of the presidency. Specifically, firms experience lower profitability, sales, employment, OCF, and investment after 2010 than before for Republican and Democrat presidencies. Results in Internet Appendix Table IA.10 show this to be the case for politically aligned and misaligned firms when we consider all presidencies since 2010. Yet, when we separately examine results for Republican and Democrat presidencies in the post-2010 period of higher polarization in Table 11, Panel C we show that most corporate outcomes, especially sales growth and profitability, are lower during Republican presidencies and when polarization is higher for firms located Democrat voting areas. This is consistent with the importance of political alignment for corporate outcomes during Republican presidencies in the post-2010 period of higher polarization. Overall, we document the harmful effects of political polarization on corporate outcomes, regardless of the presidency, as outcomes are lower during both presidencies. We also highlight the

growing importance of political alignment during Republican presidencies in the post-2010 period of higher polarization.

5.3. Robustness

We ensure that our results are robust to various specifications. First, we verify that the cash flow effect persists even after accounting for cash flow volatility. This helps establish the importance of the cash flow channel, the numerator of the valuation equations while controlling for the proxy of firm risk, which is important for the denominator of the valuation equation (see Footnote 1 for details). Table 12, Panel A presents these results, and we continue to find lower cash flow outcomes during Republican presidencies. In Table 12, Panel B, we ensure that our results are robust for a subsample of firms that experience at least two presidential changes. Since each presidential term lasts four years and presidents can serve two terms at most, we examine the subsample of firms with at least ten years of "life." In Panel C, we verify that our results are robust in including various variable definitions, using levels of variables instead of growth and vice versa. Panel D presents results with lagged firm controls. Panel E adds macroeconomic controls for CPI to control inflation and GDP to control the economy's growth. Panel F removes the recession control and substitutes it with the CPI measure. Additionally, Panel G removes years with extreme events such as 9/11 and the COVID-19 pandemic. We verify that our results are robust.

Corporate outcomes could be altered if firms engage in certain activities given more preferential presidential policies. Specifically, firms may engage in more acquisition activities or increase executive compensation, given policies easing antitrust regulation or

creating more favorable tax environments. In Table 12, Panels H and I, we find robust results for lower corporate cash flow metrics during Republican presidencies after accounting for corporate acquisition activity and executive compensation, respectively. Table 12 presents results that span 1950-2021, but consistent results for 1994-2021 are in the Internet Appendix Table IA.11. Furthermore, we provide a variety of additional specifications in the Appendix, including the replication of our results with full Compustat data, further analysis of periods with a split Congress, additional robustness results over the more recent period after 1994, when removing the years of Clinton's presidential terms, additional specifications for political alignment and polarization, and industries with high and low government exposure, exports, and net trade.

6. Conclusion

Prior studies document lower GDP growth and equity returns during Republican presidencies, a phenomenon known as the "presidential puzzle" (Blinder and Watson, 2016; Pastor and Veronesi, 2020). It is also a puzzle due to the general public's differences in performance perceptions and outcomes across presidencies. This paper examines the underlying cash flow-based mechanism behind lower returns across different presidencies. While differences between performance perceptions and outcomes across presidencies could occur due to better prominent individual indicators – sales, profitability, operating cash flows, investment, or employment – we document that all are lower during Republican presidencies. Firms also hold more cash and maintain similar payout, day-to-day operating activities, and innovation. Our most important result is on sales growth, given its pivotal role in valuation's growth rate projections for future FCF and overall firm growth. We find

lower sales growth during Republican presidencies. Our findings indicate that lower equity returns during Republican presidencies are consistent with real effects. Our results, examining various FCF components from the numerator of the valuation equation, are robust to accounting for the discount rate effects. We highlight the importance of the cash flow channel and the rational mechanism contributing to the impact (e.g., returns and GDP) found in the prior "presidential puzzle" studies.

To understand whether the regularities we discover in firm performance explain the puzzle, we examine policy-related and over-optimism explanations for why presidencies may matter for real corporate outcomes as we zoom into the cross-section of individual firms. Using policy-related explanations, we document interesting results: corporate outcomes are better during periods of political misalignment between Congress and the White House and worse in the second and third years of Republican presidencies. However, corporate outcomes remain lower during Republican terms even as we account for firms with different levels of government exposure, exports, firm size, and corporate decisions on acquisitions and executive pay. With the over-optimism explanation, we expect firms in areas aligned with the president to have better corporate outcomes and vice versa (e.g., firms in Republican voting areas to experience worse outcomes during Democrat presidencies). Contrary to this, we find the corporate outcomes are lower for all firms during Republican terms, with worse declines profitability, sales growth, OCF, and investment for firms in Democrat voting areas. Also, the importance of political alignment during Republican presidencies intensifies in the post-2010 period of high polarization. Political alignment helps explain approximately two-thirds of the difference in corporate cash flows across presidencies.

We highlight the importance of sales growth and cash flow-related outcomes, especially OCF and investment, as rational mechanisms for lower stock returns and GDP growth during Republican presidencies. We leave multiple questions and possibilities for future research, including exploration of additional explanations for lower corporate outcomes during Republican presidencies, of changes in firms' customers/suppliers, and of risk aversion cycles across presidencies.

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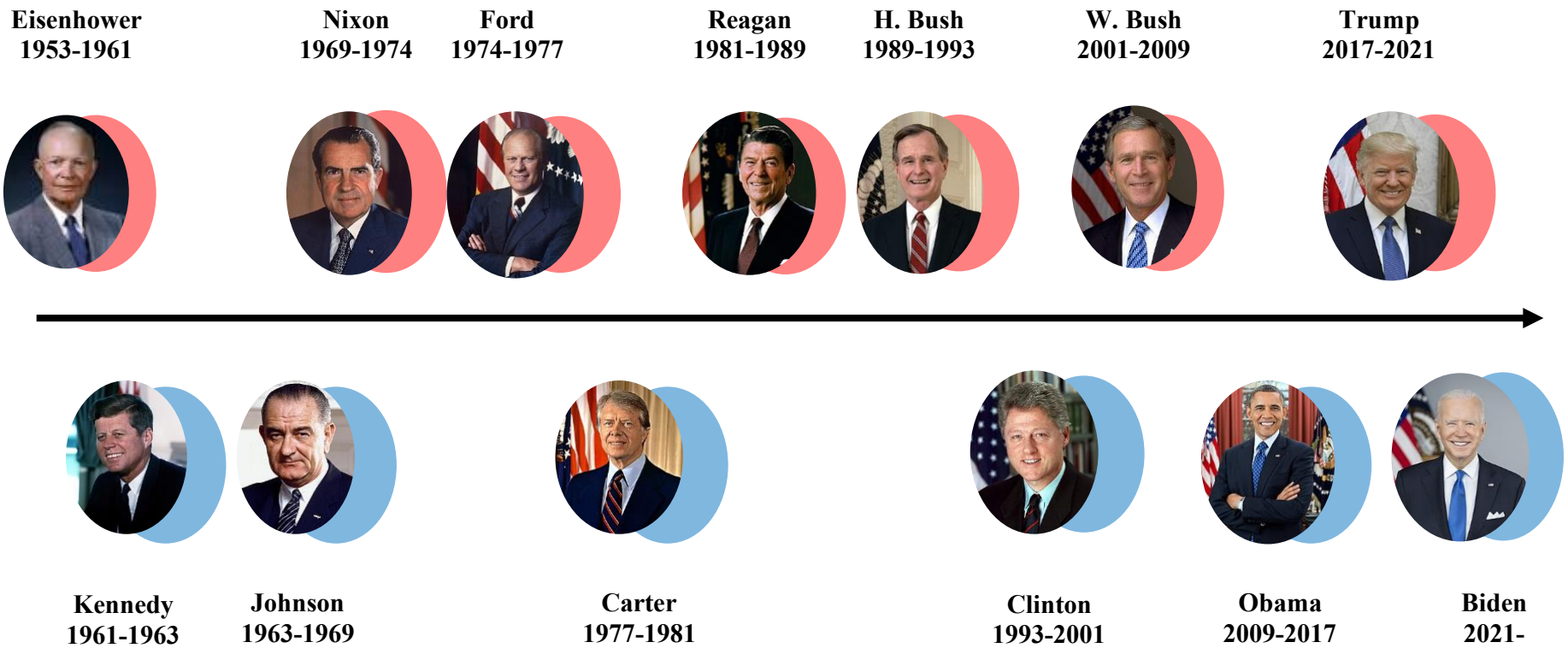
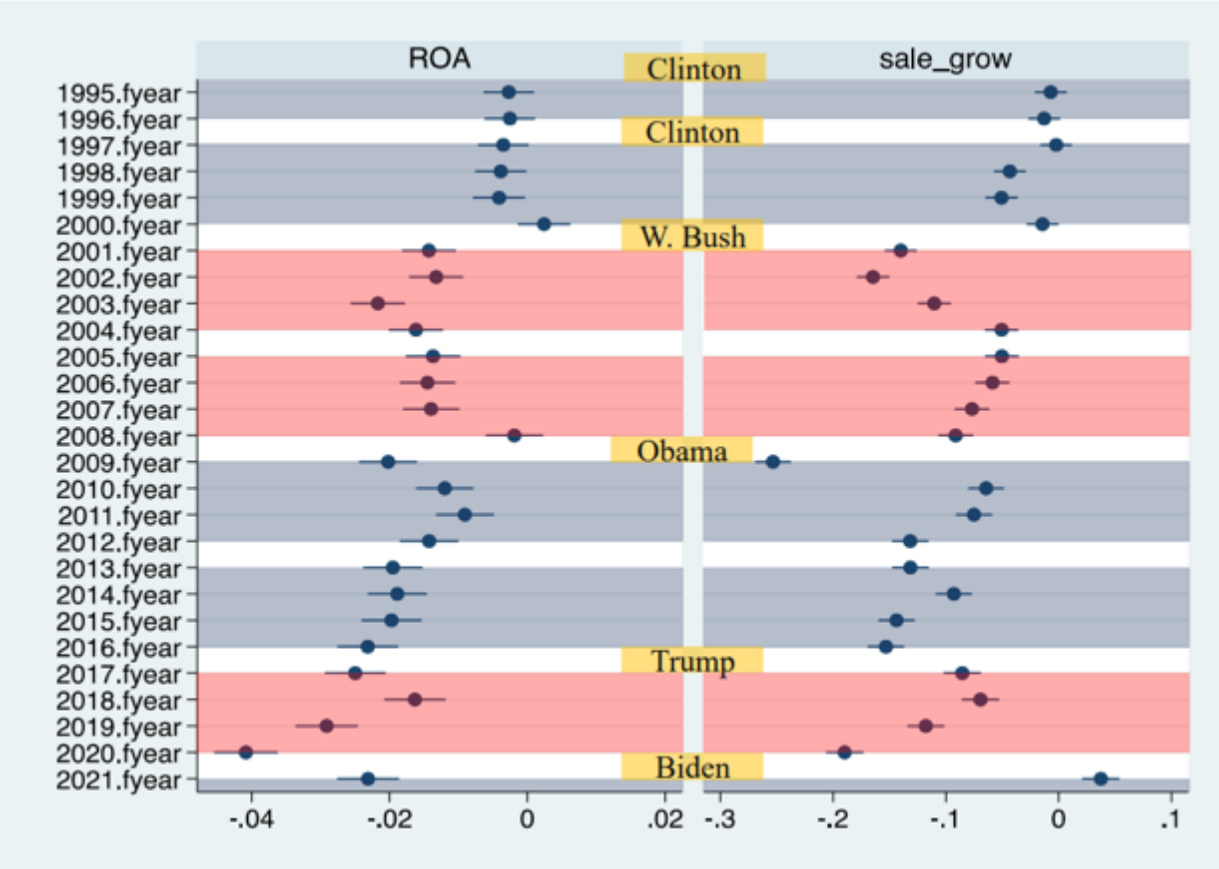


Figure 1

United States Presidents History



This figure shows the United States presidencies from 1953 to 2021, closely aligned with the 1950-2021 years covered by the analysis in this study. The last name of the president and the years of presidency are provided. Republican presidents are listed above the timeline, and Democrat presidents are listed below.

Figure 2

ROA and Sales Growth over Presidencies

This figure plots ROA and Sales Growth across presidencies. The coefficients are from regressions in Table 3 for ROA and Table 4 for Sales Growth. These regressions include firm fixed effects and control for firm size, leverage, B/M, and election and recession years. Standard errors are clustered at the firm level.

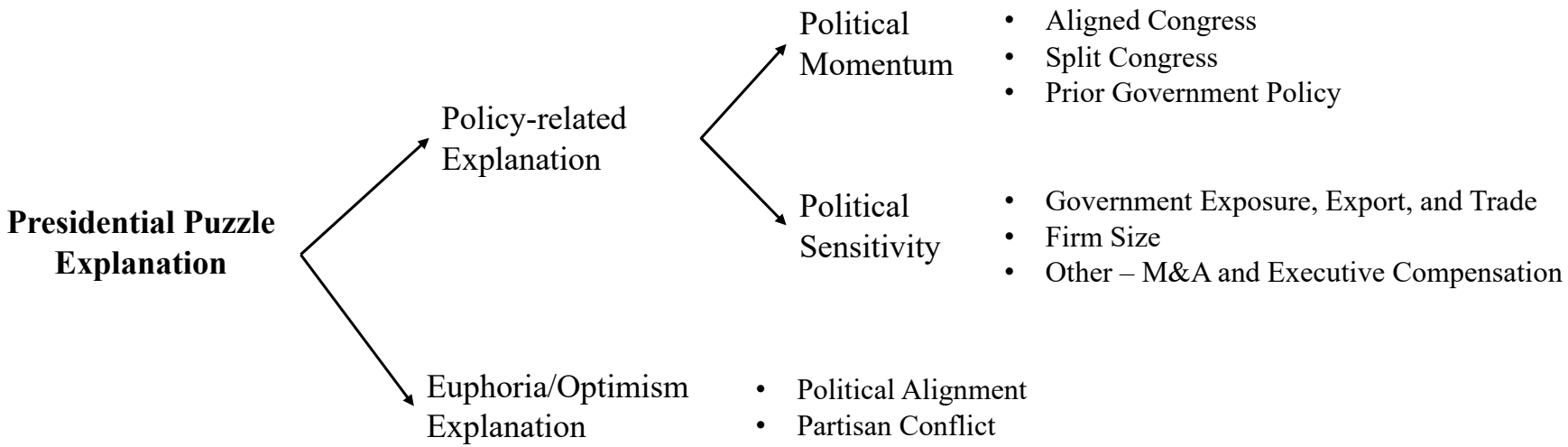


Figure 3

Explanation Examined for Differences in Corporate Outcomes Across Presidencies

This figure provides a breakdown of various explanations we examine for differences in corporate outcomes across presidencies.

Table 1
Descriptive Statistics and Mean Difference Tests

This table reports summary statistics of corporate outcomes. Panel A provides the number of observations, mean, median, standard deviation, and minimum, 25, and 75 percentiles. Pable B reports means, medians, and statistical differences for different presidential terms (Dem. and Rep. presidency) and firm political affiliations (likely-Dem. and likely-Rep). Panel C reports the statistical significance (t-stat and p-value) of the mean difference between Democrat and Republican presidencies for various corporate outcomes. The data is from 1994 to 2021. Variables are defined in Appendix Table A.1 and Internet Appendix Tables IA.1 and IA.2 additional descriptive statistics.

Panel A: Descriptive Statistics

	N	Min	p25	Mean	Median	p75	SD
Market Value and Profitability							
ln_MKTVAL	116641	-0.694	3.242	5.036	5.033	6.828	2.51
OM	116662	-	-0.044	-1.034	0.080	0.164	4.589
ROA	123372	-4.163	-0.087	-0.156	0.083	0.150	0.782
ROE	122994	-4.775	-0.066	0.129	0.196	0.385	1.213
PM	116976	-1.924	-0.170	-0.250	0.013	0.064	0.626
D/E+1	123351	-	1.236	2.262	1.747	2.715	4.932
Asset Utilization	123377	0.000	0.435	1.080	0.894	1.467	0.922
Sales and Expenses							
SALE growth	108433	-0.348	-0.048	0.134	0.073	0.244	0.324
ln SALE (CPI adj.)	123377	-1.538	3.489	5.180	5.312	7.014	2.631
OP_EXP % SALE	116888	0.173	0.837	2.040	0.920	1.044	4.619
COGS % SALE	116974	0.035	0.474	1.016	0.656	0.803	1.973
Eff Tax	123289	-1.201	0.000	0.153	0.139	0.36	0.311
EMP grow	106941	-0.707	-0.059	0.098	0.023	0.152	0.410
OIBDP grow(th)	113371	-8.345	-0.305	0.065	0.051	0.361	1.951
FCF and Components							
FCF grow(th)	103684	-5.900	-0.938	-0.224	-0.195	0.453	2.162
OCF grow(th)	113707	-8.515	-0.312	0.066	0.046	0.366	2.004
CAPX grow(th)	107541	-1.000	-0.333	0.626	0.047	0.584	2.423
AT grow(th)	113896	-0.700	-0.072	0.230	0.045	0.216	0.815
R&D grow(th)	55064	-	-0.104	0.474	0.066	0.282	13.85
NWC grow(th)	104641	-	-1.892	-0.756	-0.899	0.229	7.917
Liquidity (Cash % AT)	123350	0.000	0.029	0.218	0.109	0.322	0.254
Firm Controls							
B/M	116478	-4.494	0.164	0.452	0.392	0.738	1.041
Leverage	122926	0.000	0.023	0.328	0.204	0.416	0.484
Size	123377	-1.693	3.165	4.897	5.006	6.755	2.658

Table 1 (continued)

Panel B: Summary Statistics for Different Presidencies and Firm Political Alignment

	Dem. presidency		Rep. presidency		Likely-Dem. firms		Likely-Rep. firms	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Market Value and Profitability								
ln_MKTVAL	4.968	4.898	5.133	5.238	5.137	5.159	4.800	4.754
OM	-0.945	0.083	-1.166	0.075	-1.123	0.077	-0.844	0.086
ROA	-0.129	0.089	-0.195	0.074	-0.169	0.077	-0.130	0.095
ROE	0.144	0.207	0.107	0.180	0.105	0.182	0.185	0.225
PM	-0.232	0.016	-0.276	0.009	-0.267	0.011	-0.213	0.017
D/E+1	2.311	1.772	2.189	1.709	2.265	1.723	2.242	1.793
Asset Utilization	1.101	0.927	1.050	0.847	1.047	0.861	1.152	0.972
Sales and Expenses								
SALE growth	0.150	0.081	0.112	0.061	0.131	0.070	0.140	0.078
ln SALE (CPI adj.)	5.117	5.199	5.273	5.478	5.224	5.343	5.078	5.241
OP_EXP % SALE	1.951	0.917	2.174	0.925	2.130	0.923	1.850	0.914
COGS % SALE	0.909	0.659	1.053	0.651	1.048	0.643	0.945	0.685
Eff Tax	0.166	0.184	0.133	0.077	0.143	0.103	0.173	0.219
EMP grow	0.121	0.034	0.067	0.008	0.097	0.023	0.101	0.021
OIBDP grow(th)	0.089	0.068	0.032	0.026	0.054	0.048	0.090	0.056
FCF and Components								
FCF grow(th)	-0.338	-0.290	-0.370	-0.342	-0.310	-0.264	-0.420	-0.409
OCF grow(th)	0.695	0.079	0.528	0.006	0.617	0.041	0.642	0.057
CAPX grow(th)	0.261	0.055	0.186	0.033	0.226	0.043	0.235	0.050
ln AT (CPI adj.)	0.541	0.081	0.387	0.049	0.514	0.067	0.336	0.063
R&D grow(th)	-0.731	-0.877	-0.781	-0.921	-0.738	-0.895	-0.795	-0.899
NWC grow(th)	-0.674	-0.824	-0.763	-0.895	-0.721	-0.870	-0.726	-0.856
Liquidity (Cash % AT)	0.209	0.101	0.233	0.121	0.242	0.130	0.164	0.073

Panel C: Mean Difference(s) in Key Variables Across Presidencies

	Obs (Dem.)	Obs (Rep.)	Mean (Dem.)	Mean (Rep.)	Mean diff	Std. Err	t-stat	p-value
MKTVAL	68797	47860	2353.084	2713.878	-360.793	45.492	-7.95	0.000
ln_MKTVAL	68787	47854	4.968	5.133	-0.166	0.015	-11.10	0.000
ROA*	50484	32489	0.142	0.134	0.009	0.001	13.90	0.000
ROE*	52817	34685	0.543	0.556	-0.013	0.007	-2.15	0.032
SALE growth	63625	44808	0.149	0.112	0.038	0.002	19.00	0.000
FCF growth*	24245	18140	1.505	1.391	0.115	0.165	6.94	0.000
OCF growth	66410	47297	0.087	0.036	0.050	0.012	4.15	0.000
CAPX growth	62916	44625	0.695	0.528	0.167	0.015	11.15	0.000
NWC growth	60153	44488	-0.736	-0.783	0.047	0.050	0.95	0.170

* denotes negative earnings are presented as N/A or .

Table 2

Presidential Puzzle Mechanism: Market Value and Profitability

This table presents firm outcomes, including the market value of equity and different profitability measures, comparing across different U.S. presidencies. Panel A presents results from 1994 to 2021, and Panel B from 1950 to 2021. All regressions include firm fixed effects with standard errors clustered at the firm level. Appendix Table A.1 presents variable definitions. Standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: 1994-2021

	Market Value	Profitability			DuPont ROA/ROE Breakdown		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	OM	ROA	ROE	PM	D/E+1	Asset Utilization
Rep. Pres.	-0.051***	-0.074**	-0.040***	-0.025***	-0.012***	-0.002	0.016***
	(0.008)	(0.033)	(0.004)	(0.008)	(0.004)	(0.033)	(0.005)
Elect_year	-0.043***	-0.062***	-0.009***	-0.009	-0.015***	-0.009	0.004
	(0.004)	(0.019)	(0.003)	(0.008)	(0.002)	(0.027)	(0.003)
Recession	-0.289***	-0.010	-0.025***	-0.012	-0.053***	-0.115**	0.040***
	(0.009)	(0.038)	(0.005)	(0.013)	(0.005)	(0.049)	(0.005)
B/M	-0.131***	-0.061***	-0.020***	-0.007	-0.004	0.757***	-0.054***
	(0.012)	(0.019)	(0.003)	(0.005)	(0.003)	(0.025)	(0.004)
Leverage	-0.284***	-0.459***	-0.506***	0.337***	-0.124***	0.353***	0.044***
	(0.022)	(0.119)	(0.015)	(0.019)	(0.004)	(0.047)	(0.014)
Size	0.749***	0.419***	0.200***	0.009	0.075***	0.207***	-0.139***
	(0.007)	(0.034)	(0.006)	(0.007)	(0.004)	(0.023)	(0.005)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.910	0.614	0.772	0.238	0.740	0.237	0.757
N	114216	108055	114213	113921	108295	114204	114216

Panel B: 1950-2021

	Market Value	Profitability			DuPont ROA/ROE Breakdown		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	OM	ROA	ROE	PM	D/E+1	Asset Utilization
Rep. Pres.	-0.061***	-0.013	-0.003	-0.023***	-0.008***	0.018	-0.025***
	(0.006)	(0.020)	(0.002)	(0.006)	(0.003)	(0.023)	(0.004)
Elect_year	-0.009***	-0.037***	-0.003*	-0.007	-0.008***	0.007	0.004**
	(0.003)	(0.013)	(0.002)	(0.005)	(0.002)	(0.019)	(0.002)
Recession	-0.208***	-0.000	0.001	0.007	-0.008***	-0.138***	0.048***
	(0.006)	(0.020)	(0.003)	(0.007)	(0.003)	(0.028)	(0.003)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.588	0.739	0.227	0.709	0.216	0.760
N	189027	181944	189016	188523	182376	189011	189027

Table 3

Presidential Puzzle Mechanism. OCF Building Blocks: Sales and Expenses

This table presents key operating cash flow (OCF) metrics, including sales and expenses, comparing different U.S. presidencies. Panel A presents results from 1994 to 2021, and Panel B from 1950 to 2021. All regressions include firm fixed effects with standard errors clustered at the firm level. Appendix Table A.1 presents variable definitions. Standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: 1994-2021

	Sales		Expenses				OCF
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	SALE_grow	ln_SALE CPI adj.	Eff Tax	EMP_grow	OP_EXP % SALE	COGS % SALE	OCF_grow
Rep. Pres.	-0.034***	-0.005	-0.027***	-0.051***	0.074**	0.033**	-0.060***
	(0.003)	(0.005)	(0.002)	(0.003)	(0.033)	(0.015)	(0.014)
Elect_year	0.001	-0.010***	-0.005***	0.010***	0.060***	0.019**	0.050***
	(0.002)	(0.002)	(0.002)	(0.003)	(0.020)	(0.009)	(0.015)
Recession	-0.075***	0.031***	0.004	-0.075***	0.010	0.010	-0.157***
	(0.003)	(0.005)	(0.003)	(0.004)	(0.038)	(0.017)	(0.021)
B/M	-0.016***	-0.032***	0.000	-0.016***	0.065***	0.022**	-0.023**
	(0.002)	(0.003)	(0.001)	(0.002)	(0.019)	(0.009)	(0.010)
Leverage	-0.094***	0.190***	-0.017***	-0.105***	0.483***	0.023	-0.176***
	(0.006)	(0.013)	(0.002)	(0.007)	(0.122)	(0.048)	(0.026)
Size	0.019***	0.675***	0.006***	0.036***	-0.418***	-0.145***	0.040***
	(0.002)	(0.007)	(0.001)	(0.003)	(0.034)	(0.015)	(0.010)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.216	0.965	0.273	0.192	0.613	0.594	0.138
N	102061	108271	109429	101351	108253	114137	107154

Panel B: 1950-2021

	Sales		Expenses				OCF
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	SALE_grow	ln_SALE CPI adj.	Eff Tax	EMP_grow	OP_EXP % SALE	COGS % SALE	OCF_grow
Rep. Pres.	-0.015***	-0.029***	-0.005***	-0.023***	0.013	0.018*	-0.042***
	(0.002)	(0.004)	(0.002)	(0.002)	(0.020)	(0.009)	(0.010)
Elect_year	0.013***	-0.009***	-0.002*	0.013***	0.036***	0.013**	0.056***
	(0.002)	(0.002)	(0.001)	(0.002)	(0.013)	(0.006)	(0.011)
Recession	-0.021***	0.071***	0.009***	-0.044***	-0.000	-0.000	-0.072***
	(0.002)	(0.004)	(0.002)	(0.003)	(0.020)	(0.009)	(0.013)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.182	0.961	0.311	0.162	0.587	0.568	0.117
N	173543	160160	188923	165950	182308	182685	179240

Table 4

Presidential Puzzle Mechanism. Investment Building Blocks and FCF.

This table presents key investment metrics, including tangible investment and working capital, comparing across different U.S. presidencies. Panel A presents results from 1994 to 2021, and Panel B from 1950 to 2021. All regressions include firm fixed effects with standard errors clustered at the firm level. Appendix Table A.1 presents variable definitions. Standard errors are reported in parentheses. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: 1994-2021

	Investment				Working Capital	Overall FCF	Firm Forecast
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	CAPX_grow	AT_grow	AQC	R&D_grow	NWC_grow	FCF_grow	EPS_fcst
Rep. Pres.	-0.116***	-0.053***	-0.100***	-0.091	-0.059	-0.002	-0.116***
	(0.016)	(0.006)	(0.024)	(0.102)	(0.057)	(0.015)	(0.028)
Elect_year	0.072***	0.040***	-0.021	-0.037	-0.019	0.046***	0.026
	(0.019)	(0.006)	(0.022)	(0.070)	(0.059)	(0.016)	(0.024)
Recession	-0.353***	-0.147***	-0.282***	0.021	-0.176**	-0.025	0.021
	(0.022)	(0.007)	(0.035)	(0.181)	(0.083)	(0.023)	(0.029)
B/M	-0.073***	-0.016***	-0.072**	-0.042	-0.043	-0.020**	-0.168***
	(0.012)	(0.004)	(0.028)	(0.038)	(0.032)	(0.009)	(0.033)
Leverage	-0.613***	-0.341***	0.593***	-0.273***	-0.165*	-0.096***	-0.424***
	(0.041)	(0.014)	(0.091)	(0.084)	(0.094)	(0.021)	(0.110)
Size	0.042***		0.885***	0.077*	0.054	0.074***	0.960***
	(0.013)		(0.017)	(0.041)	(0.038)	(0.010)	(0.031)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.154	0.197	0.601	0.081	0.108	0.126	0.748
N	101354	107258	31773	52814	99175	98255	4402

Panel B: 1950-2021

	Investment				Working Capital	Overall FCF
	(1)	(2)	(3)	(4)	(5)	(6)
	CAPX_grow	AT_grow	AQC	R&D_grow	NWC_grow	FCF_grow
Rep. Pres.	-0.062***	-0.016***	-0.057***	-0.047	-0.081*	0.038
	(0.011)	(0.004)	(0.020)	(0.069)	(0.043)	(0.032)
Elect_year	0.082***	0.022***	-0.024	-0.008	-0.088*	0.031
	(0.014)	(0.004)	(0.018)	(0.049)	(0.045)	(0.033)
Recession	-0.146***	-0.055***	-0.219***	0.055	-0.090	0.017
	(0.015)	(0.004)	(0.026)	(0.097)	(0.056)	(0.042)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.133	0.176	0.635	0.081	0.085	0.085
N	169874	179624	43335	79569	165481	162570

Table 5

Presidential Puzzle Mechanism: Liquidity, Leverage, and Payouts

This table presents firm outcomes, including liquidity, leverage, and payouts, comparing U.S. presidencies. Panel A presents results from 1994 to 2021 and Panel B from 1950 to 2021. We have firm innovation results in the Internet Appendix. All regressions include firm fixed effects with standard errors clustered at the firm level. Appendix Table A.1 presents variable definitions. Standard errors are reported in parentheses. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: 1994-2021

	Liquidity	Leverage	Payout		
	(1)	(2)	(3)	(4)	(5)
	Cash % AT	D / E	# Shares	Net Payout	Net Payout, firms with pos. Net Payout
Rep. Pres.	0.005***	0.005	-0.020	-0.277	-0.679
	(0.001)	(0.028)	(0.024)	(0.205)	(0.478)
Elect_year	0.002***	-0.005	0.139***	-0.035	0.081
	(0.001)	(0.028)	(0.025)	(0.112)	(0.227)
Recession	-0.008***	-0.114***	-0.333***	0.063	0.494
	(0.001)	(0.044)	(0.037)	(0.176)	(0.550)
B/M	-0.005***	0.721***	-0.204***	-0.098	-0.316
	(0.001)	(0.018)	(0.023)	(0.061)	(0.266)
Leverage	-0.066***		-0.182***	0.097*	1.256*
	(0.004)		(0.044)	(0.051)	(0.722)
Size	-0.021***	0.177***	0.389***	0.114**	0.198
	(0.002)	(0.016)	(0.015)	(0.046)	(0.171)
Firm FE	Yes	Yes	Yes	Yes	Yes
r2	0.730	0.241	0.533	0.068	0.172
N	114210	114614	82073	100968	38398

Panel B: 1950-2021

	Liquidity	Leverage	Payout		
	(1)	(2)	(3)	(4)	(5)
	Cash % AT	D / E	# Shares	Net Payout	Net Payout, firms with pos. Net Payout
Rep. Pres.	0.005***	0.024	3.991	-0.169	-0.364
	(0.001)	(0.020)	(23.044)	(0.113)	(0.250)
Elect_year	0.001	0.007	69.639*	0.015	0.081
	(0.001)	(0.020)	(36.267)	(0.078)	(0.149)
Recession	-0.007***	-0.128***	32.437	0.040	0.189
	(0.001)	(0.026)	(46.099)	(0.081)	(0.229)
Firm FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
r2	0.694	0.219	0.210	0.064	0.172
N	189016	189637	188420	163496	67119

Table 6

Corporate Cash Flow Outcomes Across Presidencies: Control of the Congress and the Congress-President Alignment

This table presents firm outcomes focusing on key cash flow-related measures, including the market value of equity, profitability, sales, expenses, and main FCF components – OCF and investment – during different U.S. presidencies and Congressional political alignment or misalignment with the president. Panels A and B compare periods of political party alignment between the president and Congress with periods of misalignment for 1994-2021 and 1950-2021 without periods of split Congress, respectively. All regressions include firm fixed effects with robust standard errors. The data spans from 1994 to 2021. Appendix Table A.1 presents variable definitions and Internet Appendix Tables IA.4 and IA.5 additional specifications. Standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: Aligned Congress 1994-2021

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres. X Rep.Congress	-0.095***	-0.019**	-0.035***	-0.021***	-0.052***	-0.044**	-0.104***
	(0.007)	(0.009)	(0.003)	(0.003)	(0.004)	(0.018)	(0.022)
Dem.Pres. X Dem.Congress	0.211***	-0.027	-0.035***	-0.046***	-0.039***	-0.001	-0.009
	(0.013)	(0.019)	(0.006)	(0.005)	(0.007)	(0.033)	(0.042)
Elect_year	0.070***	-0.015*	-0.007**	-0.020***	-0.001	0.038**	0.104***
	(0.007)	(0.009)	(0.003)	(0.003)	(0.004)	(0.019)	(0.024)
Recession	-0.555***	0.010	-0.099***	0.008*	-0.103***	-0.174***	-0.465***
	(0.014)	(0.018)	(0.005)	(0.005)	(0.006)	(0.031)	(0.038)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.916	0.278	0.255	0.307	0.227	0.166	0.183
N	83687	83462	75304	83624	74169	78802	74695

Panel B: Aligned Congress 1950-2021

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres. X Rep.Congress	-0.050***	-0.015	-0.033***	-0.027***	-0.047***	-0.036**	-0.087***
	(0.007)	(0.009)	(0.003)	(0.003)	(0.005)	(0.017)	(0.021)
Dem.Pres. X Dem.Congress	0.042***	0.024***	0.002	0.005**	0.087***	0.044***	0.044**
	(0.006)	(0.006)	(0.002)	(0.002)	(0.005)	(0.013)	(0.018)
Elect_year	0.021***	-0.008	-0.001	-0.007***	0.000	0.042***	0.066***
	(0.005)	(0.006)	(0.002)	(0.002)	(0.003)	(0.012)	(0.016)
Recession	-0.332***	0.000	-0.034***	0.000	0.021***	-0.072***	-0.194***
	(0.007)	(0.008)	(0.003)	(0.002)	(0.005)	(0.015)	(0.019)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.914	0.261	0.210	0.345	0.955	0.138	0.157
N	139589	139188	128916	139507	131844	132961	125837

Table 7

Corporate Cash Flow Outcomes Across Presidencies: Different Presidential Years

This table presents firm outcomes focusing on key cash flow-related measures, including the market value of equity, profitability, sales, expenses, and main FCF components – OCF and investment – comparing different U.S. presidential terms and years within terms. Panel A, B, C, and D present comparisons of corporate outcomes across the first, second, third, and fourth years of the presidencies, respectively. All regressions include firm fixed effects with robust standard errors. Appendix Table A.1 presents variable definitions. Standard errors are reported in parentheses. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: Compare Years of the Presidency (1950-2021). First Year.

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres. X First Year	0.072***	-0.006	0.044***	0.012***	0.022***	0.002	0.069**
	(0.010)	(0.013)	(0.004)	(0.004)	(0.005)	(0.025)	(0.032)
Rep. Pres	-0.072***	-0.022***	-0.023***	-0.007***	-0.027***	-0.042***	-0.069***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.002)	(0.011)	(0.013)
First Year	-0.060***	-0.020**	-0.042***	-0.020***	-0.031***	-0.026	-0.040
	(0.008)	(0.010)	(0.003)	(0.003)	(0.004)	(0.020)	(0.026)
Second Year	-0.140***	-0.023***	-0.014***	-0.013***	-0.018***	-0.016	-0.027
	(0.006)	(0.007)	(0.002)	(0.002)	(0.003)	(0.015)	(0.018)
Third Year	-0.094***	-0.013*	-0.020***	-0.006***	-0.010***	-0.041***	-0.103***
	(0.006)	(0.007)	(0.002)	(0.002)	(0.003)	(0.015)	(0.018)
Elec. Year	-0.060***	-0.019***	0.003	-0.009***	0.004	0.040***	0.054***
	(0.005)	(0.006)	(0.002)	(0.002)	(0.003)	(0.013)	(0.016)
Recession	-0.206***	0.015**	-0.019***	0.013***	-0.039***	-0.071***	-0.165***
	(0.006)	(0.007)	(0.002)	(0.002)	(0.003)	(0.013)	(0.016)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.228	0.183	0.311	0.162	0.117	0.133
N	189027	188523	173543	188923	165950	179240	169874

Panel B: Compare Years of the Presidency (1950-2021). Second Year.

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres. X Second Year	-0.030***	-0.038***	-0.076***	-0.022***	-0.040***	-0.063**	-0.286***
	(0.010)	(0.013)	(0.004)	(0.004)	(0.006)	(0.027)	(0.033)
Rep. Pres	-0.056***	-0.018***	-0.005***	-0.003*	-0.018***	-0.033***	-0.020
	(0.004)	(0.005)	(0.002)	(0.001)	(0.002)	(0.011)	(0.013)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.228	0.184	0.311	0.162	0.117	0.134
N	189027	188523	173543	188923	165950	179240	169874

Table 7 (continued)

Panel C: Compare Years of the Presidency (1950-2021). Third Year.

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres. X Third Year	-0.088***	-0.002	-0.012***	-0.011***	-0.010*	0.018	0.077**
	(0.010)	(0.013)	(0.004)	(0.003)	(0.006)	(0.026)	(0.031)
Rep. Pres	-0.046***	-0.023***	-0.013***	-0.004**	-0.022***	-0.044***	-0.070***
	(0.004)	(0.005)	(0.002)	(0.002)	(0.002)	(0.011)	(0.014)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.228	0.182	0.311	0.162	0.117	0.133
N	189027	188523	173543	188923	165950	179240	169874

Panel D: Compare Years of the Presidency (1950-2021). Fourth (Election) Year.

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres. X Fourth Year	-0.041***	0.020*	0.009***	-0.009***	-0.004	0.039*	0.097***
	(0.008)	(0.011)	(0.004)	(0.003)	(0.005)	(0.022)	(0.027)
Rep. Pres	-0.049***	-0.029***	-0.018***	-0.003*	-0.022***	-0.052***	-0.084***
	(0.005)	(0.006)	(0.002)	(0.002)	(0.002)	(0.012)	(0.014)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.228	0.182	0.311	0.162	0.117	0.133
N	189027	188523	173543	188923	165950	179240	169874

Table 8

Corporate Cash Flow Outcomes Across Presidencies: The Role of Industry Government Exposure and Exports

This table presents firm outcomes focusing on key cash flow-related measures, including the market value of equity, profitability, sales, expenses, and main FCF components – OCF and investment – during different U.S. presidencies. Panel A (B) presents results controlling for government exposure (for exports). Appendix Table A.1 presents variable definitions. Data spans 1964-2021, as 1964 is the start of BEA industry data; the 1994-2021 results are available in Internet Appendix Tabel IA.7, along with additional results separating industries with high and low government exposure and exports. Robust standard errors are reported in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: Corporate Outcomes Given Government Exposure (1964-2021)

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKT VAL	ROE	SALE_ grow	Eff. Tax	EMP_ grow	OCF_ grow	CAPX_ grow
Rep. Pres.	-0.065***	-0.023***	-0.014***	-0.004***	-0.009***	-0.042***	-0.059***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.011)	(0.013)
Elect_year	-0.015***	-0.009	0.013***	-0.003**	-0.003	0.052***	0.085***
	(0.004)	(0.006)	(0.002)	(0.001)	(0.003)	(0.011)	(0.014)
Recession	-0.204***	0.006	-0.029***	0.006***	0.034***	-0.084***	-0.164***
	(0.006)	(0.007)	(0.002)	(0.002)	(0.003)	(0.013)	(0.016)
Gov_direct	-0.011	-0.001	0.005***	0.006***	0.011**	0.010	0.016
	(0.006)	(0.006)	(0.002)	(0.002)	(0.005)	(0.013)	(0.017)
Gov_total	0.053***	-0.036***	-0.111***	-0.089***	-0.446***	-0.123***	-0.233***
	(0.009)	(0.009)	(0.003)	(0.003)	(0.007)	(0.020)	(0.025)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.227	0.198	0.310	0.962	0.117	0.134
N	175605	175180	161360	175532	167187	166618	158580

Panel B: Corporate Outcomes Given Exports (1964-2021)

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKT VAL	ROE	SALE_ grow	Eff. Tax	EMP_ grow	OCF_ grow	CAPX_ grow
Rep. Pres.	-0.064***	-0.031***	-0.024***	-0.013***	-0.060***	-0.048***	-0.078***
	(0.004)	(0.006)	(0.002)	(0.002)	(0.003)	(0.012)	(0.014)
Elect_year	-0.011**	-0.010	0.015***	-0.002	0.002	0.058***	0.094***
	(0.005)	(0.006)	(0.002)	(0.002)	(0.003)	(0.012)	(0.015)
Recession	-0.190***	0.007	-0.023***	0.011***	0.054***	-0.072***	-0.149***
	(0.006)	(0.008)	(0.002)	(0.002)	(0.004)	(0.015)	(0.017)
Exports_direct	-0.080***	-0.009	-0.017***	0.013***	0.070***	-0.037*	0.021
	(0.010)	(0.010)	(0.004)	(0.003)	(0.009)	(0.022)	(0.029)
Exports_total	0.081***	-0.020*	-0.071***	-0.082***	-0.430***	-0.058**	-0.205***
	(0.011)	(0.012)	(0.004)	(0.004)	(0.010)	(0.025)	(0.034)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.908	0.230	0.193	0.308	0.962	0.115	0.132
N	148089	147736	135800	148025	140954	140644	133871

Table 9

Corporate Cash Flow Outcomes Across Presidencies: Firm Size

This table presents firm outcomes focusing on key cash flow-related measures, including the market value of equity, profitability, sales, expenses, and main FCF components – OCF and investment – during different U.S. presidencies. Panel A presents results for the smallest firms, Panel B for mid-sized firms, and Panel C for the largest firms, given the appropriate quartiles. The data spans from 1950 to 2021; the 1994-2021 results are available in Table IA.8. Appendix Table A.1 presents variable definitions. Robust standard errors are reported in parentheses. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: Smallest Firms

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKT VAL	ROE	SALE_ grow	Eff. Tax	EMP_ grow	OCF_ grow	CAPX_ grow
Rep. Pres.	-0.057***	-0.026	-0.008	0.014***	-0.007	-0.058*	-0.010
	(0.012)	(0.019)	(0.006)	(0.003)	(0.008)	(0.034)	(0.055)
Elect_year	0.030***	-0.023	0.017***	-0.003	0.023***	0.091***	0.148***
	(0.010)	(0.018)	(0.005)	(0.002)	(0.007)	(0.032)	(0.050)
Recession	-0.117***	0.018	0.025***	0.012***	-0.029***	-0.019	-0.107*
	(0.013)	(0.022)	(0.006)	(0.003)	(0.009)	(0.039)	(0.058)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.670	0.251	0.271	0.469	0.260	0.179	0.177
N	40346	40209	34879	40276	32371	38822	32914

Panel B: Mid-Quartile Firms

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rep. Pres.	-0.029***	-0.026***	-0.019***	-0.002	-0.025***	-0.029**	-0.057***
	(0.005)	(0.006)	(0.002)	(0.002)	(0.003)	(0.015)	(0.016)
Elect_year	-0.008*	-0.000	0.021***	-0.003	0.014***	0.072***	0.078***
	(0.005)	(0.006)	(0.002)	(0.002)	(0.003)	(0.015)	(0.016)
Recession	-0.175***	0.008	-0.021***	0.008***	-0.043***	-0.072***	-0.142***
	(0.007)	(0.007)	(0.003)	(0.003)	(0.003)	(0.017)	(0.017)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.851	0.290	0.237	0.340	0.228	0.134	0.146
N	95396	95163	90563	95373	86586	92139	89355

Panel C: Largest Firms

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rep. Pres.	-0.062***	-0.022***	-0.007***	-0.020***	-0.019***	-0.013	-0.043***
	(0.007)	(0.008)	(0.002)	(0.003)	(0.003)	(0.012)	(0.010)
Elect_year	-0.041***	-0.001	-0.004*	0.001	-0.003	-0.005	-0.016
	(0.007)	(0.009)	(0.002)	(0.003)	(0.003)	(0.013)	(0.011)
Recession	-0.256***	-0.008	-0.048***	-0.001	-0.039***	-0.107***	-0.125***
	(0.010)	(0.011)	(0.003)	(0.004)	(0.003)	(0.017)	(0.013)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.850	0.196	0.185	0.218	0.164	0.128	0.135
N	46694	46573	45722	46687	44611	45738	45136

Table 10

Corporate Cash Flow Outcomes Across Presidencies: Firm Political Alignment

This table presents firm outcomes focusing on key cash flow-related measures, including the market value of equity, profitability, sales, expenses, and main FCF components – OCF and investment – comparing different U.S. presidencies while firms are aligned or misaligned with the acting president according to their political affiliation (e.g., likely-Dem and likely-Rep.). Likely-Dem. (likely-Rep.) are firms headquartered in counties that voted Dem. (Rep.) in the prior presidential election. Panel A presents results with firm fixed effects. Panel B presents results with firm and year fixed effects; this difference-in-difference setting compares corporate outcomes between likely-Democrat versus likely-Republican firms during Republican versus Democrat presidencies. The data spans from 1994 to 2021 due to the availability of reliable headquarters data starting in 1994. Appendix Table A.1 presents variable definitions and Internet Appendix Table IA.9 additional specifications. Robust standard errors are reported in parentheses. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: Firm-President Political Alignment

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres.X likely-Dem.	-0.063***	-0.043***	-0.037***	-0.031***	-0.056***	-0.072***	-0.136***
	(0.006)	(0.009)	(0.002)	(0.002)	(0.003)	(0.016)	(0.019)
Rep.Pres.X likely-Rep.	-0.019**	0.010	-0.020***	-0.018***	-0.038***	-0.026	-0.061**
	(0.009)	(0.012)	(0.004)	(0.003)	(0.005)	(0.022)	(0.027)
Elect_year	-0.039***	-0.008	0.003	-0.004**	0.011***	0.047***	0.073***
	(0.005)	(0.008)	(0.002)	(0.002)	(0.003)	(0.014)	(0.018)
Recession	-0.280***	-0.011	-0.072***	0.005*	-0.074***	-0.153***	-0.344***
	(0.008)	(0.012)	(0.003)	(0.003)	(0.004)	(0.020)	(0.022)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.912	0.246	0.216	0.274	0.192	0.139	0.153
N	113541	113238	101481	113463	100505	106508	100735

Panel B: Difference-in-Difference

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres.X likely-Dem.	-0.031***	-0.042***	-0.010**	-0.003	-0.011*	-0.038	-0.070**
	(0.011)	(0.014)	(0.004)	(0.004)	(0.006)	(0.027)	(0.032)
Election X likely-Dem.	-0.001	-0.007	-0.003	0.002	0.005	-0.036	0.078**
	(0.012)	(0.016)	(0.005)	(0.004)	(0.007)	(0.031)	(0.038)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.915	0.247	0.261	0.283	0.212	0.141	0.161
N	113541	113238	101481	113463	100505	106508	100735

Table 11

Corporate Cash Flow Outcomes Across Presidencies: Political Polarization

This table presents firm outcomes focusing on key cash flow-related measures, including the market value of equity, profitability, sales, expenses, and main FCF components – OCF and investment – comparing different U.S. presidencies while political polarization is high or low. Political polarization is measured using PCI from Azzimonti (2018) as in Appendix Figure A.1. High (low) polarization occurs post- (pre-) 2010. Panel A presents how firm outcomes vary with PCI. Panel B presents firm outcomes during Democrat and Republican presidencies in a period of high vs. low polarization. and its impact on firms depending on the firms' political affiliation. Panel C presents triple interaction results to examine corporate outcomes of likely-Dem. firms during Republican presidencies in a period of higher polarization. The data spans from 1994 to 2021. Appendix Table A.1 presents variable definitions and Internet Appendix Table IA.10 additional specifications. Regressions include firm fixed effects. Robust standard errors are reported in parentheses. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: PCI Index Control

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres	-0.047***	-0.031***	-0.046***	-0.035***	-0.066***	-0.075***	-0.140***
	(0.008)	(0.008)	(0.003)	(0.002)	(0.003)	(0.014)	(0.016)
PCI	0.000	-0.000**	-0.001***	-0.001***	-0.001***	-0.001***	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Elect_year	-0.040***	-0.010	-0.001	-0.007***	0.008***	0.046***	0.068***
	(0.004)	(0.007)	(0.002)	(0.002)	(0.003)	(0.014)	(0.018)
Recession	-0.277***	-0.021	-0.098***	-0.011***	-0.102***	-0.185***	-0.394***
	(0.009)	(0.013)	(0.003)	(0.003)	(0.004)	(0.020)	(0.022)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.912	0.246	0.223	0.277	0.196	0.138	0.154
N	114519	114208	102364	114440	101351	107415	101620

Panel B: Post-2010 and Different Presidencies

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Post2010 X Dem.Pres.	-0.016	-0.015	-0.107***	-0.052***	-0.108***	-0.112***	-0.198***
	(0.015)	(0.013)	(0.003)	(0.003)	(0.004)	(0.019)	(0.021)
Post2010 X Rep.Pres.	-0.026	-0.097***	-0.159***	-0.100***	-0.162***	-0.214***	-0.350***
	(0.020)	(0.017)	(0.004)	(0.005)	(0.005)	(0.025)	(0.030)
Elect_year	-0.039***	-0.008	0.002	-0.005**	0.011***	0.050***	0.073***
	(0.004)	(0.007)	(0.002)	(0.002)	(0.003)	(0.014)	(0.018)
Recession	-0.303***	-0.031**	-0.123***	-0.024***	-0.130***	-0.218***	-0.459***
	(0.010)	(0.013)	(0.003)	(0.003)	(0.004)	(0.020)	(0.022)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.912	0.246	0.229	0.278	0.197	0.139	0.154
N	114519	114208	102364	114440	101351	107415	101620

(Table 11 continued)

Panel C: Firm-President Political Alignment and Polarization

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep.Pres.X likely-Dem. X Post2010	0.078***	-0.111***	-0.036***	0.036***	-0.019	-0.079	-0.104
	(0.028)	(0.039)	(0.011)	(0.012)	(0.013)	(0.068)	(0.082)
Rep.Pres.X likely-Dem.	-0.076***	-0.013	0.017***	-0.012**	0.007	0.016	0.028
	(0.015)	(0.019)	(0.006)	(0.005)	(0.008)	(0.039)	(0.046)
Rep.Pres.	-0.032**	0.001	-0.080***	-0.030***	-0.100***	-0.097***	-0.208***
	(0.013)	(0.016)	(0.005)	(0.004)	(0.007)	(0.032)	(0.038)
Rep.Pres X Post2010	0.018	0.019	0.039***	-0.037***	0.053***	0.041	0.106
	(0.024)	(0.034)	(0.009)	(0.010)	(0.012)	(0.059)	(0.070)
Post2010	-0.056***	-0.067***	-0.169***	-0.068***	-0.170***	-0.256***	-0.372***
	(0.017)	(0.023)	(0.007)	(0.006)	(0.009)	(0.043)	(0.050)
Likely-Dem X Post2010	-0.007	0.062**	0.024***	-0.009	0.011	0.124***	0.090
	(0.019)	(0.026)	(0.008)	(0.007)	(0.010)	(0.048)	(0.056)
Likely-Dem.	0.018	-0.008	-0.027***	0.005	-0.020**	-0.052	-0.108**
	(0.014)	(0.018)	(0.006)	(0.004)	(0.008)	(0.036)	(0.044)
Elect_year	-0.043***	-0.008	-0.001	-0.006***	0.007**	0.044***	0.066***
	(0.006)	(0.008)	(0.002)	(0.002)	(0.003)	(0.015)	(0.018)
Recession	-0.292***	-0.028**	-0.115***	-0.018***	-0.114***	-0.203***	-0.429***
	(0.009)	(0.013)	(0.004)	(0.003)	(0.004)	(0.022)	(0.024)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.910	0.239	0.232	0.278	0.204	0.139	0.155
N	113239	112951	101179	113161	100221	106248	100469

Table 12

Robustness: Presidential Puzzle Mechanism with Various Controls

This table presents robustness tests for the main cash flow-related corporate outcomes, including the market value of equity, profitability, sales, expenses, and main FCF components – OCF and investment – comparing different U.S. presidencies. Panel A controls for cash flow volatility. Panel B uses a subsample of firms with at least a 10-year life to ensure that firms experience at least one presidential transition. Panel C presents results using levels of variables in place of growth in variables and vice versa, growth, where previously level measures were used. Panel D presents lagged controls, Panel E presents additional macroeconomic controls for CPI and GDP, Panel F presents corporate outcomes without controlling for recessions, Panel G removes extreme exogenous events, such as COVID, Panel H controls for firm acquisition-related measures, and Panel I controls for executive compensation. All regressions include firm fixed effects with robust standard errors. The data spans from 1950 to 2021; the 1994-2021 results are available in Table IA.11. Appendix Table A.1 presents variable definitions and Internet Appendix Tables IA.3 and IA.12 additional specifications. Standard errors are reported in parentheses. ∗∗∗, ∗∗, and ∗ indicate significance at the 1, 5, and 10% levels, respectively.

Panel A: Controlling for Cash Flow Volatility

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.052***	-0.017***	-0.006***	-0.002	-0.019***	-0.033***	-0.047***
	(0.004)	(0.006)	(0.002)	(0.002)	(0.002)	(0.011)	(0.013)
Elect_year	-0.032***	-0.010*	0.011***	-0.004***	0.013***	0.058***	0.079***
	(0.004)	(0.006)	(0.002)	(0.002)	(0.002)	(0.012)	(0.014)
Recession	-0.240***	0.008	-0.027***	0.009***	-0.046***	-0.076***	-0.163***
	(0.006)	(0.007)	(0.002)	(0.002)	(0.003)	(0.014)	(0.016)
CF VOL.	0.004	-0.030***	-0.064***	-0.015***	-0.092***	-0.121***	-0.304***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.002)	(0.010)	(0.012)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.910	0.233	0.205	0.302	0.187	0.125	0.147
N	166588	166359	153098	166512	148026	158687	151182

Table 12 (continued)

Panel B: Subsample of Firms with at Least 10 Years

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.046***	-0.021***	-0.010***	-0.004**	-0.014***	-0.037***	-0.056***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.010)	(0.012)
Elect_year	-0.010**	-0.004	0.015***	-0.003*	0.001	0.047***	0.081***
	(0.004)	(0.005)	(0.002)	(0.002)	(0.003)	(0.011)	(0.014)
Recession	-0.197***	0.010	-0.023***	0.010***	0.051***	-0.071***	-0.130***
	(0.006)	(0.006)	(0.002)	(0.002)	(0.004)	(0.013)	(0.015)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.914	0.166	0.114	0.271	0.952	0.070	0.088
N	152843	152478	146062	152794	145655	149209	142352

Panel C: Using Levels of Variables Instead of Growth and Vice-Versa

	Valuation	Expenses	OCF	Investment				FCF
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	M/B	ln_EMP	ln_OIBDP CPI adj.	ln_CAPX CPI adj.	ln_Asset CPI adj.	ln_AQC	ln_GDWL	FCF_grow
Rep. Pres.	-0.089***	-0.016***	-0.081***	-0.077***	0.001	-0.057***	0.041***	0.022
	(0.031)	(0.003)	(0.004)	(0.005)	(0.001)	(0.019)	(0.007)	(0.029)
Elect_year	0.007	-0.001	0.004	0.017***	-0.005***	-0.024	-0.020***	0.005
	(0.033)	(0.003)	(0.005)	(0.005)	(0.001)	(0.019)	(0.007)	(0.031)
Recession	-0.313***	0.048***	0.075***	0.098***	0.035***	-0.219***	-0.028***	0.047
	(0.037)	(0.004)	(0.006)	(0.007)	(0.001)	(0.026)	(0.010)	(0.040)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.273	0.956	0.921	0.898	0.996	0.636	0.930	0.105
N	189011	178982	116160	158369	166837	43335	62055	137152

Table 12 (continued)

Panel D: Using Lagged Control Variables

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.075***	-0.020***	-0.015***	-0.005***	-0.019***	-0.052***	-0.067***
	(0.005)	(0.005)	(0.002)	(0.001)	(0.003)	(0.010)	(0.012)
Elect_year	-0.019***	-0.004	0.013***	-0.003*	0.007**	0.053***	0.073***
	(0.005)	(0.006)	(0.002)	(0.001)	(0.003)	(0.011)	(0.013)
Recession	-0.292***	0.007	-0.025***	0.010***	0.019***	-0.073***	-0.179***
	(0.006)	(0.007)	(0.002)	(0.002)	(0.004)	(0.013)	(0.014)
lag_B/M	-0.251***	-0.001	-0.025***	-0.003***	-0.008***	-0.020**	-0.111***
	(0.006)	(0.004)	(0.001)	(0.001)	(0.003)	(0.008)	(0.009)
lag_Leverage	-0.363***	0.103***	-0.090***	-0.043***	0.002	-0.096***	-0.451***
	(0.015)	(0.016)	(0.005)	(0.002)	(0.009)	(0.022)	(0.042)
lag_Size	0.688***	-0.004	-0.058***	-0.019***	0.480***	-0.072***	-0.275***
	(0.003)	(0.003)	(0.001)	(0.001)	(0.002)	(0.005)	(0.007)
Constant	1.738***	0.172***	0.454***	0.318***	-2.510***	0.438***	2.108***
	(0.014)	(0.014)	(0.005)	(0.003)	(0.010)	(0.027)	(0.038)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.886	0.224	0.203	0.306	0.950	0.115	0.137
N	171393	171844	166937	172610	164362	172212	163505

Panel E: Additional Macroeconomic Control (CPI and GDP)

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.060***	-0.023***	-0.018***	-0.006***	-0.019***	-0.045***	-0.065***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.010)	(0.012)
Elect_year	-0.004	-0.010*	0.008***	-0.004***	-0.009***	0.049***	0.068***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.011)	(0.013)
Recession	-0.173***	-0.011	-0.059***	-0.005**	-0.015***	-0.126***	-0.247***
	(0.006)	(0.007)	(0.002)	(0.002)	(0.004)	(0.014)	(0.016)
GDP	-0.017***	0.008***	0.015***	0.003***	0.018***	0.023***	0.043***
	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.002)	(0.003)
CPI	0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.228	0.211	0.326	0.960	0.118	0.136
N	188997	188493	173516	188893	178956	179213	169853

Table 12 (continued)

Panel F: Without Recession Control

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.082***	-0.024***	-0.024***	-0.006***	-0.018***	-0.059***	-0.093***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.010)	(0.012)
Elect_year	0.005	-0.010*	0.010***	-0.004***	-0.010***	0.054***	0.079***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.011)	(0.013)
CPI	-0.029***	0.009***	0.017***	0.007***	0.035***	0.021***	0.039***
	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.002)	(0.003)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.909	0.228	0.191	0.313	0.957	0.117	0.134
N	188997	188493	173516	188893	178956	179213	169853

Panel G: Without Extreme Event Years (9/11, 2008 Financial Crisis, COVID)

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.075***	-0.019***	-0.015***	-0.001	-0.003	-0.042***	-0.070***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.010)	(0.013)
Elect_year	0.014***	-0.008	0.018***	0.000	0.008***	0.062***	0.096***
	(0.004)	(0.005)	(0.002)	(0.001)	(0.003)	(0.012)	(0.015)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.910	0.241	0.191	0.320	0.956	0.124	0.141
N	173144	172678	159236	173053	163730	164148	155550

Table 12 (continued)

Panel H: Additional Acquisition-Related (M&A) Controls

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.046***	-0.014**	-0.000	-0.010***	0.001	-0.032**	-0.042***
	(0.005)	(0.007)	(0.002)	(0.002)	(0.003)	(0.013)	(0.016)
Elect_year	-0.032***	-0.011	0.008***	-0.001	0.002	0.049***	0.071***
	(0.005)	(0.008)	(0.002)	(0.002)	(0.003)	(0.014)	(0.018)
Recession	-0.291***	-0.005	-0.056***	0.005*	0.006	-0.133***	-0.273***
	(0.008)	(0.011)	(0.003)	(0.003)	(0.005)	(0.019)	(0.022)
AQC % ASSETS	0.695***	0.063	0.996***	0.132***	0.215***	1.234***	2.563***
	(0.051)	(0.056)	(0.021)	(0.020)	(0.029)	(0.126)	(0.160)
GDWL % ASSETS	-0.244***	-0.027	0.088***	-0.025*	0.138***	0.118	-0.103
	(0.042)	(0.053)	(0.017)	(0.013)	(0.029)	(0.103)	(0.130)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.911	0.238	0.231	0.278	0.966	0.136	0.150
N	119624	119373	107876	119550	114382	113154	107175

Panel I: Additional Executive Compensation Controls (compensation data from 1992)

	Valuation	Profitability	Sales	Expenses		OCF	Investment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ln_MKTVAL	ROE	SALE_grow	Eff. Tax	EMP_grow	OCF_grow	CAPX_grow
Rep. Pres.	-0.055***	-0.031***	-0.018***	-0.032***	-0.027***	-0.057***	-0.051***
	(0.007)	(0.009)	(0.003)	(0.004)	(0.004)	(0.017)	(0.013)
Elect_year	-0.053***	-0.002	0.005	0.003	-0.005	0.031*	0.012
	(0.008)	(0.010)	(0.003)	(0.004)	(0.004)	(0.018)	(0.015)
Recession	-0.216***	-0.013	-0.098***	0.006	0.001	-0.122***	-0.234***
	(0.011)	(0.014)	(0.004)	(0.005)	(0.006)	(0.026)	(0.019)
TDC1_sale	0.005***	-0.001***	0.001***	-0.000	-0.003***	0.005***	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2	0.914	0.252	0.239	0.278	0.969	0.144	0.156
N	101590	101363	90626	101516	97233	95471	90251

Appendix Table A.1: Variable Definitions

Variable	Definition
Political and economic variables	
Dem. Pres.	An indicator that equals 1 for the year during a Democrat presidency.
Rem. Pres.	An indicator that equals 1 for the year during a Republican presidency.
likely-Dem.	An indicator that equals 1 for counties with Democrat presidential victories and 0 otherwise; matched to firms using firm headquarters.
likely-Rep.	An indicator that equals 1 for counties with Republican presidential victories and 0 otherwise; matched to firms using firm headquarters.
Dem.Congress	An indicator that equals 1 for the year during a Democrat-controlled Congress.
Rep.Congress	An indicator that equals 1 for the year during a Republican-controlled Congress.
Post2010	An indicator that equals 1 for the years after and including 2010.
PCI	Partisan Conflict Index (PCI) from Azzimonti (2018), provided by the Federal Reserve Bank of Philadelphia. The index tracks the degree of political disagreement among U.S. politicians at the federal level.
Elect_year (Fourth)	An indicator that equals 1 for election years.
Recession	An indicator that equals 1 for NBER U.S. recessions.
First Year	An indicator that equals 1 for the first year of the presidency's first term.
Second Year	An indicator that equals 1 for the second year of the presidency's first term.
Third Year	An indicator that equals 1 for the third year of the presidency's first term.
CPI	Consumer Price Index of the U.S. for each year.
GDP	Gross Domestic Product for the U.S. for each year.
Corporate Outcomes (Compustat, unless specified; listed in order of examination)	
B/M	Book-to-Market; measured as the book value of equity divided by the market value of equity
Leverage	Leverage as a proportion of total assets; (DLC+DLTT)/AT
Size	Represents firm's Total Assets; is measured as the natural log of AT
ln_MKTVAL	Market value of equity; measured as the natural log of the market value of equity. MKTVAL is calculated as the number of shares multiplied by the price per share: CSHPRI*PRCC or CSHO*PRCC. Presented in USD millions.
Profitability, ROE	Return on equity; ROE is calculated as OIBDP/CEQ or OIBDP/SEQ. ROE* presents ROE results but replaced negative earnings, OIBDP, as N/A or '.'
Profitability, ROA	Return on assets; ROA is calculated as OIBDP/AT. ROA* presents ROA results but replaced negative earnings, OIBDP, as N/A or '.'
Profitability, OM	Operating margin; OIBDP/SALE
Profitability, PM	Profit margin; IB/SALE
D / E	Debt-to-equity ratio; (DLC+DLTT)/SEQ, also AT/SEQ-1
Asset Utilization	Asset utilization efficiency; SALE/AT
SALE_grow(th)	Percentage sales growth, year-over-year
ln_SALE_cpi	Natural log of sales deflated by CPI (results are consistent for 1994 and 2020 CPI deflation)
OPEXP % SALE	Operating expenses as a proportion of sales; XOPR/SALE.

COGS % SALE	Cost of goods sold as a proportion of sales; COGS/SALE
Eff_Tax	Effective tax; TXT/PI.
EMP_grow(th)	Employment growth, where EMP_grow(th)=(EMP-lag(EMP))/lag(EMP)
ln_EMP	Natural log of employment, EMP.
SALE per EMP	Sales per employee, SALE/EMP.
OIBDP_grow	Operating income growth; calculated as (OIBDP-lag(OIBDP)) / lag(OIBDP) and represents percentage OIBDP growth, year-over-year.
FCF	Free Cash Flow, calculated as FCF = OCF + CAPX + change(NWC). FCF is deflated by CPI. Natural log adjustment is applied.
FCF_grow(th)	Free Cash Flow growth, calculated as FCF_grow(th) = (FCF-lag(FCF)) / lag(FCF) and represents percentage FCF growth, year-over-year.
OCF_grow(th)	Operating Cash Flow growth; OCF is calculated as OCF=SALE – XOPR - TAX or OCF=OIBDP-TAX; OCF grow(th)=(OCF-lag(OCF)) / lag(OCF) and represents percentage OCF growth is presented year-over-year
Investment: CAPX_grow(th)	Capital Expenditure growth, representing firm's tangible investment; calculated as (CAPX-lag(CAPX))/lag(CAPX) and represents percentage CAPX growth, year-over-year
NWC_grow(th)	Growth in the change of Net Working Capital; NWC is calculated as RECTR+INVT-AP, change in NWC is change(NWC)=NWC-lag(NWC). Growth in the change in NWC is (change(NWC)-lag(change(NWC))) / lag(change(NWC).
EPS_fcst.	Forecast of annual Earnings Per Share from IBES Guidance Detail dataset, available from November, 1992.
AT_grow(th)	Total assets growth; calculated as (AT-lag(AT) / lag(AT)) and represents percentage AT growth, year-over-year
Cash % AT	Liquidity is cash and equivalents as a proportion of total assets; calculated as CHE/AT
Net Payout	Following Kahle and Stulz (2021), net payout is dividends plus share repurchases of common and preferred stock, adjusted for reductions in value of preferred, minus issuance of stock. Net Payout is scaled by Operating Income. (DV + PRSTCK - depending on availability (PSTKRV or PSTKL or PSTK) – SSTK) / OIBDP
# shares	The change, or growth, in the number of shares; (CSHO-lag_CSHO)/lag_CSHO
R&D_grow(th)	Research and Development expense growth; calculated as (XRD-lag(XRD)) / lag(XRD) and represents percentage R&D growth, year-over-year
Patent Count	The number of patents the firm had for the year, from Kogan et al. (2017)
Avg. Cite.	The average number of citations the firm had for the year, from Kogan et al. (2017)
Avg_x_Real	The average dollar value of innovation for the firm for the year, from Kogan et al. (2017)
GOV_DIRECT	Firm's industry-level exposure to government direct purchases. Constructed using 1964-2022 BEA annual I-O tables following Belo, Gala, and Li (2013).
GOV_TOTAL	Firm's industry-level exposure to government total (direct and indirect) purchases. Constructed using 1964-2022 BEA annual I-O tables following Belo, Gala, and Li (2013).
EXPORT_DIR.	Firm's industry-level exposure to direct exports. Constructed using 1964-2022 BEA annual I-O tables following Belo, Gala, and Li (2013).
EXPORT_TOT.	Firm's industry-level exposure to total exports (direct and indirect). Constructed using 1964-2022 BEA annual I-O tables following Belo, Gala, and Li (2013).
AQC % ASSETS	Acquisition-related charges as a proportion of Total Assets: AQC/AT
CF VOL.	Cash flow volatility is the log of the firm's quarterly cash flows, OIBDP. Standard deviation is measured over the previous three-year period, starting with the quarter

	that coincides with the annual reporting date and capturing three prior years or twelve quarters, when available. Quarterly Compustat data is available from 1961.
GDWL%ASSETS	Goodwill as a proportion of Total Assets, GDWL/AT. Goodwill is an acquisition-related account which reflects the premium, above the current market prices, paid by the acquirer for the target in an acquisition.
TDC1/Sales	CEO compensation scaled by Sales. Here we examine TDC 1, which includes salary, bonus, stock, and option grants.

VITA

Esther Im was born on May 8, 1994, in Evanston, Illinois. She completed her elementary, middle, and high school education in Seongnam, South Korea. In March 2014, she began her undergraduate studies in Business Administration at Sookmyung Women's University, graduating in February 2018. She continued her education at The Ohio State University, earning a Specialized Master in Finance degree in May 2019. In August 2020, she began her doctoral studies in Business Administration with a concentration in Finance at the Trulaske College of Business, University of Missouri.