Narrative Conservatism*

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This draft: March 10, 2021

Abstract

We define narrative conservatism as narratives reflecting bad news in a timelier, more news-consistent, and complete manner than good news. Using a sample of 8-K filings for the period 1993 to 2020, we find that narrative disclosure is conservative. 8-Ks are filed faster, their marginal change of tone is more news-consistent, and they contain more words, filings, items, exhibits, and graphs in response to bad news than to good news. We document higher narrative conservatism in voluntary 8-Ks. We also find evidence of narrative conservatism in quarterly 10-Q reports. Our evidence suggests that narrative conservatism is a pervasive property of accounting narratives throughout the period studied. Finally, we provide initial evidence that narrative conservatism is more salient in firms with low conditional or high unconditional conservatism.

Keywords: *Narrative Disclosure; Narrative Conservatism; Conservatism; Timeliness; Tone; Completeness; Textual Analysis*

*We are grateful for helpful comments from Bing Guo, Encarna Guillamón-Saorín, Claudia Imperatore, Paulo Maduro, Flora Muiño, Cristhian Seminario-Amez, and seminar participants at Queen Mary University of London, IÉSEG School of Management, EAA-VARS, XX GRUDIS Conference & Doctoral Colloquium, Alliance Manchester Business School, and Universidad Carlos III de Madrid. We acknowledge financial contribution from the Spanish Ministry of Education and Science (ECO2016-77579 and PID2019-111143GB) and Comunidad de Madrid (Programa Excelencia para el Profesorado Universitario, V Plan Regional de Investigación Científica e Innovación Tecnológica).

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1 Introduction

We define and provide evidence of narrative conservatism. We define narrative conservatism as *narratives reflecting bad news in a more timely, news-consistent and complete manner than good news*. Our definition builds on Basu (1997), and extends the notion of accounting conservatism to narrative disclosure. Narrative conservatism is of interest for at least two reasons. First, it completes our understanding of accounting conservatism. Financial reporting consists both of recognition and disclosure, and thus, the extant knowledge of conditional and unconditional conservatism, which manifest through recognition, is a partial view of conservatism in accounting, which we extend by studying the role of narratives. Second, narrative disclosure takes up a dominant space in corporate filings.[1] Investors' perceptions of firm performance and their subsequent decision-making processes are influenced by narratives (e.g., Li 2011). Therefore, there is need for further research on the properties of narrative disclosure and its economic implications.

Consistent with this view, Kothari, Shu, and Wysocki (2009, p. 243) note that while prior research focuses on conservative *recognition*, there is little evidence on conservative *disclosure*. Guay and Verrecchia (2018, pp. 73-74) call for more studies to focus on conservative reporting through narrative disclosure because "a commitment to timely disclosure of bad news need not come exclusively through financial statement recognition." Despite these calls for further research, we know little about whether narrative disclosure is conservative, or whether and how narrative conservatism interacts with other forms of conservatism.

An ample literature studies conditional and unconditional conservatism, concentrating on properties of income statement and balance sheet items. Conditional conservatism captures the asymmetric response of earnings to positive and negative economic news (Basu, 1997), and unconditional conservatism manifests as a systematic understatement of net book value of assets due to predetermined aspects of the accounting process (e.g., Beaver & Ryan,

[1] For example, Apple Inc.'s 2019 Annual Report consists of 64 pages: 3 are numerical summaries of the financial statements, and 15 of other tables and figures. The remaining pages are narratives, including risk factors, management discussion and analysis (MD&A), notes to financial statements (NFS), among other things. Over the past 20 years, the average number of pages in annual reports devoted to footnotes and MD&A has quadrupled (EY, 2012).

2005). We add to this literature by studying conservatism in narrative disclosure. The existence of narrative conservatism is not clear ex-ante. Prior literature outlines managerial incentives both to disclose and withhold bad news (Healy & Palepu, 2001; Kothari, Shu, & Wysocki, 2009; Bao, Kim, Mian, & Su, 2019). These incentives may also influence managers' decisions on whether, and to what extent, narrative disclosure responds to good and bad news asymmetrically. Given this, whether *on average* firms respond to good and bad news asymmetrically in narrative disclosure is an empirical question of interest.

To conceptualize narrative conservatism, we build on fundamental properties of accounting information and their definitions. In particular, we focus on whether narratives respond to economic losses (bad news) in a more timely, news-consistent and complete manner than to economic gains (good news). Timeliness implies that disclosure is made *in time* to be able to influence users' decisions. News-consistency implies that disclosure agrees with the underlying economic event in content sentiment. Completeness implies that disclosure includes all necessary information for a user to understand the underlying economic event.

We empirically examine narrative conservatism using 8-K filings as our main corpora. The 8-K form is a report that must be filed to the U.S. Securities and Exchange Commission (SEC) within a short time period to notify investors about material events or changes in the company. Compared to other corporate disclosure channels such as media, press releases, conference calls, annual or quarterly reports, the 8-K form is a more appropriate corpora to study the asymmetric behavior of narrative disclosure in response to good and bad news for the following reasons. First, 8-Ks are timelier than periodic reports because they are required to be filed within days of the news.[2] Second, 8-Ks convey more credible information than the social media and the business press because their content is subject to SEC scrutiny. Third, because 8-Ks apply a standardized codification predefined by the SEC to summarize the type of the reported event, we can accurately identify the topic of the event using 8-K items.

[2] In contrast, annual (10-K) and quarterly (10-Q) filings often report on news with several months delay, given their fixed schedule. Consider, for example, news that take place in January for a firm with a December fiscal year end. Even if management aims to report in a timely manner, news will not be conveyed in the quarterly and annual report until April and January of the following year, respectively.

We evaluate timeliness by the reporting time lag, which is the number of days between the news release date and the disclosure filing date. We identify a date as the news release date if the change in daily returns on that date is three times larger than the firm's annual average change in daily returns in absolute magnitude. We define news-consistency as the degree to which firms respond to good news with positive tone and to bad news with negative tone, and we measure it by the marginal change of narrative tone in response to news. The marginal change depicts how much narrative tone changes given one unit change in stock returns. We proxy completeness by the number of total words, total number of 8-K filings, total number of 8-K items, total number of 8-K exhibits and graphs. Overall, we posit that if narratives are conservative, they should have shorter reporting time lag, greater marginal change of tone, more words, filings, items, exhibits and graphs in response to bad news than to good news. We follow Basu (1997) and use stock returns as our main proxy for news.

We retrieve 8-K filings from the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system. Our final 8-K sample contains 83,464 firm-day observations from 6,477 unique firms from 1993 to 2020.[3] We find that 8-Ks are filed faster (with shorter time lag), have greater marginal change of tone, and contain more words, filings, items, exhibits and graphs in response to bad news than to good news, consistent with narrative disclosure being conservative. We conduct a battery of robustness checks. First, to ensure that our asymmetric timeliness results are not specific to the novel 8-K reporting time lag definition, we follow Carter and Soo (1999), Niessner (2015) and Chapman, Reiter, White, and Williams (2019) to define the 8-K time lag as the number of days between the 8-K reporting period date and the 8-K filing date.[4] Second, to ensure that our results are not only driven by the a priori bad news items that are expected to be more narratively conservative by nature, we eliminate *a priori* bad news 8-K items following Segal and Segal (2016). Third, to ensure that our 8-K reporting time lag strictly proxy for timeliness of narrative disclosure, we exclude

[3] Since the SEC adopted the rule of electronic submission for corporate filings in 1993, data coverage in the first year of EDGAR implementation is low (Gao & Huang, 2020). We repeat our main analyses using data from 1994 onward, and our main results hold.

[4] All filings in EDGAR have two dates: filing date and reporting period date. Filing date is the date when the report is filed to EDGAR, and reporting period date is the end date of reporting period of the filing (see https://www.sec.gov/about/webmaster-faq.htm).

8-K days that contain quarterly or annual financial statements following Segal and Segal (2016). Our main findings hold under these three robustness checks.

We perform four sets of additional analyses. First, we investigate whether narrative conservatism is present in other disclosures. Specifically, we test if narratives in quarterly reports, i.e., 10-Q filings, are conservative. We choose 10-Qs because they contain sections such as risk factors, managerial discussions and analysis (MD&A) and notes to financial statements (NFS), where managers discuss the risks and opportunities of the business. Thus, they offer more flexibility and diversity in terms of linguistic tone and length compared to 8-Ks, which are more standardized. However, due to the periodicity of 10-Qs, they are not as timely as 8-Ks in response to unforeseen corporate events. This means that the reporting time lag of 10-Qs does not strictly proxy for narrative reporting timeliness. Therefore, we only study asymmetric tone consistency and completeness in 10-Q filings. We hypothesize and find evidence that 10-Qs are more news-consistent and lengthier in response to bad news than good news, consistent with 10-Q narratives being conservative. To ensure that our 10-Q results are not driven by boilerplate disclosure, we examine how narrative conservatism varies in the MD&A section as compared with the notes to financial statements (NFS) using 10-Qs. We conjecture that narratives in the MD&A section are more conservative because they contain less boilerplate than the NFS (SEC, 2019). Our results are consistent with this prediction.

Second, we examine whether narrative conservatism differs between voluntary and mandatory disclosure. Prior research suggests that managers have more freedom to determine the timing, content and rhetoric in voluntary disclosure than in mandatory disclosure (Segal & Segal, 2016). Thus, we expect voluntary disclosure to be more conservative than mandatory disclosure. We classify voluntary and mandatory disclosure following the 8-K classification in He and Plumlee (2020). Consistent with our expectation, narrative conservatism is mainly driven by voluntary disclosure.

Third, we study time trends in narrative conservatism for our full sample period (1995 to 2020). We find that asymmetric timeliness is pervasive in narratives. We also document asymmetric news-consistency and asymmetric completeness in narratives starting around the period of the financial crisis. Our evidence indicates that narrative conservatism has

become a stable property of accounting narratives since then.

Fourth, we explore how narrative conservatism interacts with conditional conservatism and unconditional conservatism. Following Khan and Watts (2009), we measure conditional conservatism with C_SCORE. We use the natural logarithm of intangible assets (INTANQ) and R&D expenses (XRDQ) to proxy for unconditional conservatism. We divide the full 8-K sample into high and low conditional (unconditional) subsamples based on the median of C_SCORE (INTANQ and XRDQ). We find that narrative conservatism is more salient in firms with low (high) conditional (unconditional) conservatism, suggesting that narrative conservatism supplements conditional conservatism, and complements unconditional conservatism.

Our study contributes to the accounting literature in three main ways. First, we document the existence of narrative conservatism. Prior studies focus on two forms of conservatism in accounting recognition—the asymmetric earnings response to good and bad news and the understatement of net asset values (Basu, 1997; Ball & Shivakumar, 2005; Beaver & Ryan, 2005). We extend the notion of conservatism to the asymmetric narrative responses to good and bad news. We also document the relationship among narrative conservatism, conditional and unconditional conservatism, providing initial evidence that narrative conservatism supplements (complements) conditional (unconditional) conservatism. Second, we provide novel evidence to the debate regarding whether managers withhold bad news. Prior research uses a wide variety of disclosure proxies to study managers' tendency to disclose bad news (Kasznik & Lev, 1995; Kothari, Shu, & Wysocki, 2009; Bao et al., 2019). Using novel proxies for disclosure, our results indicate that firms *on average* disclose bad news in a more timely, news-consistent and complete manner than good news. Third, we contribute to the broader literature on the informativeness of SEC filings. A stream of literature studies the market reactions to 8-Ks (Carter & Soo, 1999; Pinsker, 2006; Lerman & Livnat, 2010). We add to this literature by studying the behavior of corporate narrative disclosure in response to good and bad news, using market returns as an indicator of the underlying news.

The rest of the study is as follows. Section 2 reviews prior literature and develops our main hypotheses. Section 3 outlines the empirical design. Section 4 presents the main results. Section 5 reports the additional analyses and Section 6 concludes.

2 Theoretical Framework

2.1 Recognition and Disclosure

A stream of literature studies the distinctions between recognition and disclosure in financial reporting (Aboody, 1996; Barth, Clinch, & Shibano, 2003; Schipper, 2007). Schipper (2007, p. 301) defines recognition as "depictions in numbers with captions on the face of the financial statements," and disclosure as "display in the notes and supporting schedules that accompany financial statements."[5] In this study, we follow Schipper (2007) and use the term narrative (or narrative disclosure) to denote textual disclosures presented in SEC filings, including notes to financial statements, supplementary information, and other means of financial reporting.

Recognition and narrative disclosure are subject to different reporting requirements. For an economic event to be recognized in financial statements, a set of recognition criteria needs to be satisfied (FASB, 1984). First, the item must meet the definition of an element of financial statements (definition criterion). Second, the item must have a relevant attribute measurable with sufficient reliability (measurability criterion). Third, the information about the item must be capable of making a difference in user decisions (relevance criterion). Fourth, the information must be representationally faithful, verifiable, and neutral (reliability criterion). In contrast, narrative disclosure is more flexible because it can be deployed to disclose information that fails to meet certain recognition criteria (FASB, 1984, par. 7b). As FASB (1984, par. 7, CON5-7) states:

> "although financial statements have essentially the same objectives as financial reporting, some useful information is better provided by financial statements and some

[5] Statement of Financial Accounting Concepts No. 5—*Recognition and Measurement in Financial Statements of Business Enterprises* formally defines *recognition* as "the process of formally recording or incorporating an item into the financial statements of an entity as an asset, liability, revenue, expense, or the like. Recognition includes depiction of an item in both words and numbers, with the amount included in the totals of the financial statements." (FASB, 1984, par. 6) but does not define *disclosure*. Due to the absence of a conceptual definition of disclosure, prior literature on disclosure commonly interpret disclosure as any display that is not in numbers. However, this interpretation may partially overlap with the FASB definition of recognition, which states that recognition also includes words. As Schipper (2007, p. 302) notes: "both in analytical modeling and in developing financial reporting concepts, it is difficult to distinguish between recognized and disclosed information."

is better provided, or can only be provided, by notes to financial statements or by supplementary information or other means of financial reporting."

In essence, narrative disclosure serves two key roles. First, narratives can be *supplementary* to recognition, conveying information that cannot be recognized because it fails to meet the recognition criteria. With respect to good news, because good news recognition requires a higher standard of verification, firms may convey good news via disclosure rather than recognition. For instance, under U.S. General Accepted Accounting Principles (US GAAP), long-lived tangible and intangible assets cannot be revaluated upwards. When the market price of the firms' long-lived tangible and intangible assets goes up, firms cannot recognize the gain, but they may discuss it in other filings. With respect to bad news, despite lower verification criteria, bad news may still not be fully recognized. For example, although firms can create a provision for expected future payments from a potential lawsuit, they cannot recognize the associated reputation losses since it is extremely difficult to obtain a reliable estimate that can be verified subsequently. However, firms may discuss these broader impacts of a lawsuit in narrative disclosure.[6] In sum, firms may use narrative disclosure to inform investors about the immeasurable, and thus non-recognizable impact of various corporate events to fulfill their obligation of providing relevant financial information to investors.[7]

Second, narratives can be *complementary* to recognition. Complementary narratives are used to explain or provide essential descriptive information to the line items included in the firm financial statements. For example, for long-term obligations, narratives describe the due amounts, the interest rate and restrictions imposed by covenants, etc. For inventory, narratives state the measurement method used. In case of an impairment, the narrative may explain the circumstances surrounding it. For sales, narratives provide revenue recognition policies (FASB, 1984, footnote 4, CON5-7). In sum, firms may use narrative disclosure to complement the line items recognized in the financial statements, thereby enhancing users'

[6] Also, if the bad news is considered a remote contingent liability (less than 50% chance of being realized), this bad news can only be disclosed in the foonotes. Another example would be internally developed intangible assets, which cannot be capitalized, and thus, cannot be impaired when bad news arrives. However, firms may discuss the impact of news associated with these intangible assets in narrative disclosures.

[7] Rule 10b-5 of the Securities Exchange Act of 1934 states that it shall be unlawful "to omit to state a material fact necessary in order to make the statements made ... not misleading."

understanding about the underlying economic events.

Next, we define conservatism in narrative disclosure and elaborate on how it links to conservatism in recognized financial statements.

2.2 Definition of Narrative Conservatism

Prior work documents two main manifestations of accounting conservatism: conditional and unconditional conservatism (Beaver & Ryan, 2005). Conditional conservatism manifests as "accountants' tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses" (Basu, 1997, p. 7),[8] and is typically measured by the asymmetric response of earnings to positive and negative stock returns. Examples of conditional conservatism under US GAAP include impairment/revaluation accounting for long-lived tangible and intangible assets, which mandates writing down the value of an asset by any losses incurred, but not writing up its value by the difference between market price and its carrying amount. Another example of conditional conservatism is lower of cost or market accounting for inventory under US GAAP or lower of cost or net realizable value accounting under International Financial Reporting Standards (IFRS).

With respect to unconditional conservatism, it manifests as "accountants' preference for accounting methods that lead to lower reported values for shareholders' equity" (Basu, 1997, p. 8). Examples of unconditional conservatism include the immediate expensing, rather than capitalizing of research and development (R&D) costs, and the use of accelerated depreciation for property, plant and equipment (Beaver & Ryan, 2005).

Compared to the extant literature on conditional and unconditional conservatism in recognition, little work has been done on conservatism in disclosure. One notable exception is Guay and Verrecchia (2018) that study firms' commitment to disclose bad realizations of economic events in an analytical model. Guay and Verrecchia (2018, p. 73) interpret a commitment to conservative reporting to include "not only reported earnings, but, more

[8] Basu (1997) does not use the terms conditional or unconditional conservatism. Here we quote Basu (1997) only to describe the manifestation of the two forms of conservatism, which are now labeled as conditional and unconditional conservatism.

broadly, any mechanism that commits managers to disclose, such as required footnotes and explanations in corporate filings." The model in Guay and Verrecchia (2018) focuses on the timeliness dimension of recognition and disclosure. We build on their analytical work and extend the notion of narrative conservatism to three dimensions of disclosure. Specifically, we define narrative conservatism as *narratives reflecting bad news in a more timely, news-consistent and complete manner than good news*. Narratives can be conservative along each of these dimensions. We explain these dimensions next.

2.2.1 Asymmetric timeliness with respect to good and bad news

Financial information is of higher quality if it is *timely*. Disclosure should be made *in time* to influence users' decisions. Managers have discretion over the timing of disclosure (e.g., Chapman et al., 2019), and this timing influences market reaction to disclosure. Alford, Jones, and Zmijewski (1994) find that the market reacts negatively to delays in the filing of 10-Ks.

Commonly, managers disclose good news in a timely manner, while the evidence on the timeliness of bad news disclosure is mixed. Several studies document that managers tend to delay bad news disclosure. For instance, Chambers and Penman (1984) find that firms accelerate good news disclosure while delaying bad news disclosure, and that investors interpret the failure to report on time as a forecast of bad news. Segal and Segal (2016) find that managers release bad news after trading hours and on the last trading day of the week to exploit investor inattention and minimize the negative impact on stock price. This strategic timing of bad news disclosure is also prevalent in private firms without stock price motivations (Brockbank & Hennes, 2018) and is associated with benefits in insider sales (Niessner, 2015). Baginski, Campbell, Hinson, and Koo (2018) document that firms' delayed disclosure of bad news is positively associated with managerial career concerns.

In contrast, other studies document that firms disclose bad news in a timely manner. Skinner (1994) argues that managers face reputational costs if they fail to disclose bad news in a timely manner prior to a negative earnings surprise. Using a continuous-time disclosure model, Marinovic and Varas (2016) show that litigation risk not only induces timely bad news disclosure, but also suppresses good news disclosure since the market interprets silence

as good news and firms can communicate good news without actually disclosing it, lowering proprietary costs. Yermack (1997) and Aboody and Kasznik (2000) find that managers prompt bad news disclosure prior to stock option grant dates to lower option strike prices.

Against this backdrop, it is unclear whether narratives are conservative in terms of disclosure timeliness. If narrative disclosure is conservative, according to our definition, firms should respond to bad news in a timelier manner than to good news. This gives rise to our first hypothesis:

H1a: *Narrative disclosure is timelier in response to bad news than to good news.*

2.2.2 Asymmetric news-consistency with respect to good and bad news

We introduce the concept of *news-consistency* to assess *how* information is provided, and we interpret it as the degree to which firms use positive tone in narrative disclosure in response to good news and negative tone in response to bad news. Tone influences how information is perceived or processed, and thus it can be employed both to inform or mislead. Davis, Piger, and Sedor (2012) document that increases in tone optimism in earnings press releases are positively associated with immediate stock price response. Using a naïve Bayesian machine learning approach, Li (2010) finds that the average tone of forward looking statements in MD&As is positively correlated with future earnings. Thus, news-consistency refers to whether and to what extent disclosure tone aligns with the real impact of the underlying economic event, as measured by market reaction to the event.

We propose news-consistency as a second critical attribute of conservative disclosure. Firms may deploy a uniformly positive tone in both good and bad news disclosure, resulting in higher news-consistency in good news disclosure. For example, Huang, Teoh, and Zhang (2014) document that firms strategically engage in upward tone management to boost market perception of firm performance. Based on their findings, when managers have incentives to emphasize the economic impact of good news, they may disclose bad news using positive tone, thereby creating higher news-consistency in response to good relative to bad news.

Alternatively, to avoid litigation risk, managers may deploy a uniformly negative tone in both good and bad news disclosure, resulting in higher news-consistency in response to

bad news disclosure relative to good news. Rogers, Van Buskirk, and Zechman (2011, p. 2179) suggest that "managers can reduce litigation risk by dampening the tone of their earnings announcements either by decreasing their use of positive language or by tempering their optimism with statements that are less favorable." Consistent with litigation risk constraining the use of optimistic tone in disclosure, Tama-Sweet (2009) finds that managers increase optimistic tone prior to option exercises when litigation risk is low, but decrease optimistic tone prior to option exercises when litigation risk is high.

Overall, if narratives are conservative, we predict that firms respond to bad news in a more news-consistent manner than to good news. This gives rise to our second hypothesis:

> ***H1b:*** *Narrative disclosure is more news-consistent in response to bad news than to good news.*

2.2.3 Asymmetric completeness with respect to good and bad news

Financial information is of higher quality when it is *complete*. Complete disclosure must include all necessary information for a user to understand the underlying economic event. Extant theoretical studies establish that managerial commitment to complete disclosure of news, good or bad, reduces information asymmetry and improves market efficiency (Glosten & Milgrom, 1985; Diamond, 1985; Diamond & Verrecchia, 1991; Baiman & Verrecchia, 1996). Empirically, using German data, Leuz and Verrecchia (2000) show that firms' information asymmetry is reduced, and cost of capital is lowered after switching to the international reporting regime which requires an increased level of disclosure. Leuz and Schrand (2009) find that firms respond to the adverse shock of Enron scandal by increasing their disclosure level through lengthier 10-K filings, thereby reducing their cost of capital.

Against this backdrop, we propose completeness as an essential attribute of disclosure. Narratives are conservative if they are more complete when disclosing bad news than when disclosing good news, i.e., narrative disclosure is conservative if it is asymmetrically complete in response to good versus bad news. In practice, firms may disclose good news in a more complete manner than bad news. Kothari, Li, and Short (2009) find that unfavorable disclosure increases cost of capital significantly. This penalization may induce managers to

disclose good news and withhold bad news, leading to asymmetric completeness in narrative disclosure but in the opposite direction of narrative conservatism. Teoh, Welch, and Wong (1998) and Lang and Lundholm (2000) provide supporting evidence to this argument by documenting that firms issuing equity tend to disclose good news and withhold bad news. Rogers and Van Buskirk (2009) find that firms reduce the frequency and amount of disclosure post-litigation, suggesting that firms become more likely to withhold bad news for which they may later be held legally accountable.

In contrast to this work, other studies document that managers have incentives to disclose bad news in a more complete manner than good news. Skinner (1994, 1997) finds that firms preempt negative earnings surprises with voluntary bad news disclosure to avoid being sued, or to minimize the costs of resolving any litigation that follows the disclosure of bad news. In line with this argument, Field, Lowry, and Shu (2005) find that disclosure of bad news deters certain types of litigation.

In sum, if narrative disclosure is conservative, firms should respond to bad news by providing more complete disclosure than to good news. We formulate our hypothesis regarding asymmetric completeness in narrative disclosure as follows:

> ***H1c:*** *Narrative disclosure is more complete in response to bad news than to good news.*

3 Research Design

3.1 Narrative Disclosure Corpora

We study narrative conservatism using 8-K filings from EDGAR.[9] The 8-K form is a report that must be filed to notify investors about material events or changes in the company, where each event is classified as an 8-K item. Appendix A provides a full list of 8-K items, listed under two distinct formats: before and after August 23 of 2004. This is due to a reform

[9] Non-public firms held by 500 (and in some situations, 300) or more persons and with more than $10 million total assets, and all public firms are obliged to register with the SEC and file the 8-K form (Segal & Segal, 2016).

from the SEC consisting of three amendments: (a) expanding the scope of events subject to Form 8-K disclosure, (b) creating a new topical format, and (c) shortening the filing deadline (SEC, 2004; Lerman & Livnat, 2010). 8-K items are mandatory except for 'Other Events,' 'Regulation FD Disclosure,' and 'Results of Operations and Financial Condition.'[10] Deadline to file mandatory 8-K items ranged from five to fifteen days after an event in the late 1980s, and has been shortened to four business days after August 23 of 2004 (Lerman & Livnat, 2010).

Firms issue narrative disclosure via multiple channels, such as media, press releases, conference calls, annual or quarterly reports. We focus on the 8-K filings for three motives. First, 8-K filings are timelier than 10-K or 10-Q filings, i.e., annual or quarterly reports. In periodic reports, managers can bundle information acquired during the fiscal period and make summarized responses to all events in one single report at the fiscal period end (Segal & Segal, 2016). Given that one of our goals is to examine the timeliness of narrative disclosure, periodic filings cannot provide sufficient time variation in good and bad news responsiveness, and thus they are not an appropriate text source for the purpose of this study. Second, the contents of 8-K filings are under SEC scrutiny and biased reporting leads to higher litigation risk (Rogers et al., 2011). Therefore, 8-K filings provide higher credibility compared to firm-issued disclosures via social media and press. Third, 8-K filings are highly scripted and have higher reporting threshold than conference calls, which implies that corporate events need to have at least a moderate impact on firm operations to be discussed in 8-K filings (Hassan, Hollander, van Lent, & Tahoun, 2019). Hence, we filter out less relevant events and concentrate on the ones with material impact. Also, the fact that 8-Ks use predefined items to summarize the type of reported corporate events facilitates researchers to analyze the nature of the events in depth.

[10] We follow He and Plumlee (2020) and classify 'Results of Operations and Financial Condition' and 'Regulation FD Disclosure' as voluntary disclosure items, because their triggering event is the firm's voluntary disclosure of material events. Lerman and Livnat (2010) classify the two items as "semi-voluntary" for the same reason. The item 'Other Events' is voluntary following the filing requirement in SEC (2004).

3.2 Proxies for Textual Properties and News

We measure timeliness using the reporting time lag of SEC filings. Specifically, the 8-K reporting time lag (tlag) is the number of days between the news day, i.e., the nearest date around an 8-K reporting period date when there is a large change in daily stock returns,[11] and the filing date of the corresponding 8-K.[12] The shorter the lag, the timelier the narrative disclosure. If narrative disclosure is conservative, as predicted under $H1a$, we expect shorter reporting time lags in response to bad news than to good news.

We measure sentiment in narrative disclosure using linguistic tone and measure the degree of news-consistency by the marginal change of tone in response to increase (good news) or decrease (bad news) in stock market returns. News-consistency requires the marginal change to be positive, i.e., tone is positive in response to good news, and negative in response to bad news. Furthermore, if narrative tone is asymmetrically news-consistent, it implies greater marginal change of tone in response to bad news than to good news. That is, if narrative disclosure is conservative, as predicted under $H1b$, the change in narrative tone should be more negative in response to bad news than it should be positive in response to good news, given the same magnitude of news. Irrespective of the nature of news, under narrative conservatism, either bad news is emphasized or good news is attenuated, or both.[13]

We measure completeness using five textual attributes in 8-K filings following Bird and Karolyi (2016). Complete disclosure must "include all information necessary for a user to understand the phenomenon being depicted, including all necessary descriptions and ex-

[11] See the exact definition of news day in Section 3.3.

[12] Alternatively, we calculate the 8-K reporting time lag as the number of days between the 8-K reporting period date and the 8-K filing date (Carter & Soo, 1999; Niessner, 2015; Chapman et al., 2019). Our results (untabulated) remain unchanged.

[13] We provide the following numerical example to illustrate the concept of marginal change of tone. Suppose a 1% increase (good news) versus a 1% decrease (bad news) in stock return, which should move tone upwards and downwards, respectively, by 1% if the response of narrative tone is neutral, i.e., tone responds equally to good and bad news. However, in the presence of narrative conservatism, three situations may happen: (1) bad news emphasis: in response to bad news, tone decrease by 1.2% and in response to good news, tone increase by 1%; (2) good news attenuation: in response to bad news, tone decrease by 1% and in response to good news, tone increase by 0.8%; (3) a mix of both: in response to bad news, tone decrease by 1.2% and in response to good news, tone increase by 0.8%. In all cases, the marginal change of tone in response to bad news is greater in magnitude than that in response to good news. Therefore, under narrative conservatism, the marginal change of tone in narrative disclosure is greater in response to bad news than to good news.

planations" (FASB, 2018a, QC12). Hence, more complete disclosure should be lengthier, allowing managers to elaborate on detailed explanations (Leuz & Schrand, 2009). Thus, our first proxy for completeness is the total number of words (nw) per day. Due to the irregularity and unpredictability of 8-K triggering events, 8-K filings have a unique data structure: though most companies only report one 8-K filing in one day and each 8-K filing usually contains only one or two 8-K items, some firms report more than one 8-K filing per day and each 8-K filing may contain more than two items. We make use of 8-K information content and measure completeness by the number of 8-K filings (n8k) and the number of 8-K items (nitem) per day. The more material corporate events are triggered in one day, the more items must be reported in one day, and thus the more complete the narrative disclosure is. Furthermore, 8-K filings can contain various exhibits and graphs, which provide supplemental information to the underlying events. Exhibits can include press release and contracts, and graphs are usually presentation slides or brand logos. We also measure completeness using the number of exhibits (nexhibit) and the number of graphs (ngraph) per day. The more exhibits and graphs attached, the more supplemental information are provided, and thus the more complete narrative disclosure is. To sum up, if narrative disclosure is conservative, as predicted under $H1c$, we expect it to have more words, more 8-K filings, more 8-K items, more exhibits and more graphs in response to bad news than to good news.

Following Basu (1997), we measure news with stock returns in our main tests. In an efficient market, stock returns incorporate public and private information in a timely manner and therefore positive and negative returns are indicative of good and bad news. Firms respond to the news by disclosing information of the associated events via 8-K filings.

3.3 Sample Construction

We construct our 8-K sample in three steps. First, we aggregate the raw 8-K data at individual filing level into firm-day level. This is done by summing all raw count variables over each firm-day. For instance, the count variable $nw_{i,t}$ in our 8-K sample is the number of total words in all 8-K filings on one reporting period date t for firm i, instead of the number of total words of one specific 8-K filing. The same aggregation method applies to $n8k_{i,t}$, $nitem_{i,t}$, $nexhibit_{i,t}$ and $ngraph_{i,t}$. We construct TONE as the number of net

positive words per thousand total words. Net positive words is the number of positive words minus the sum of the number of negative words and negations. We multiply net positive words by one thousand for ease of interpretation. We follow Loughran and McDonald (2011) and count negations as cases where negation words occur within four or fewer words from a positive word.[14] By taking negations into consideration, we control for the fact that it is common to frame bad news using negated positive words, i.e., use "did not increase" instead of "decrease." We do not control for negations of negative words because firms rarely communicate good news with negated negative words, i.e, use "did not fail" instead of "succeeded" (Loughran & McDonald, 2011). We label a firm-day as "8-K day" if at least one 8-Ks reporting period date coincides with that day.

Next, we build our proxy for news. We obtain the daily market-adjusted stock returns (DRET) and calculate the change in daily returns (ΔDRET). Then, we define a firm-day as a "bad (good) news day" if the negative (positive) change in daily market-adjusted stock return (ΔDRET) is three times larger than the firm's average decrease (increase) in daily return over the calendar year.[15] BN is an indicator for bad news day, which is set to 1 if the firm-day is a bad news day, and 0 if the firm-day is a good news day. We define good and bad news based on change in daily returns (ΔDRET) because daily returns are volatile and may vary absent corporate events. Therefore, we only focus on firm-days with sizable changes in daily returns, which are more likely to result from significant corporate events and reflect fundamental firm information.

Then, we match firms' news and 8-K filings as illustrated in Figure 1. Specifically, we match every 8-K day to its nearest news day. The matched news day can be earlier than (Match-1), the same as (Match-2) or later than (Match-3) the 8-K day. The Match-1 and Match-3 cases correspond to the following two situations. In Match-1 cases, the underlying events of the 8-K disclosure may be known already by the market, and 8-Ks trail the market.

[14] Negation words include: no, not, none, neither, never, nobody (Tottie, 1991).

[15] On average, each firm in our 8-K sample has two significant news days in a year. We code BN to missing if the firm-day does not have any news. Therefore, all observations in our final 8-K sample are either good or bad news firm-days. Bad news days make up for 53.6% in the 8-K sample (See Table 2 Panel A). Our 8-K results regarding asymmetric narrative timeliness are robust if we define news day using two and four times thresholds alternatively.

Events that are related to macro-economic conditions or industry factors, such as a change in monetary policy or a pandemic outbreak fit in this situation. In Match-3 cases, the 8-K may release new information to the market and the market reacts on the subsequent day. This is likely given that managers often release 8-Ks after hours or late on Fridays (Segal & Segal, 2016). After matching, we calculate TLAG as the number of days elapsed between the 8-K filing date and its nearest news day.[16] We eliminate all Match-3 cases in which the market return movements occur after the filing of 8-Ks, because for this type of match we cannot accurately identify the date when the underlying event actually occurs. Our final 8-K sample consists of Match-1 and Match-2 with non-negative TLAG. In an untabulated robustness check, we include the Match-3 observations into our 8-K sample and calculate their TLAG as the number of days elapsed between the 8-K reporting period date and the 8-K filing date, and our results remain unchanged.

The underlying assumption behind this matching process is that the 8-K filing and its nearest news release are triggered by the same underlying event. One concern of this assumption is that the 8-K filing and the news release may not be about the same event even if they are close in time. We provide validity check for this assumption by conducting a manual audit for 50 matched 8-K cases, and the results support the matching assumption that the 8-Ks are responses to their matched news releases (see Appendix B).

3.4 Model Specification

Once the 8-K sample is constructed, we use the following model to explore how 8-K filings respond to good versus bad news.

$$\begin{aligned} TEX_{i,t} =& \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \\ & \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t}, \end{aligned} \tag{1}$$

[16] We match 8-Ks to news by *reporting period date* because the reporting period date and the news release date are both about the actual date when the underlying event takes place. However, we calculate TLAG using 8-K *filing date* because we are interested in whether 8-Ks are filed in response to good and bad news with different timeliness, allowing for managerial discretion in reporting speed.

where ΔDRET is the changes in daily returns and BN is the bad news indicator, *at news release date*. CONTROLS is a vector of control variables. The right-hand side of Equation (1) resembles the conditional conservatism model in Basu (1997). Our model differs from the Basu model in that we replace earnings with seven textual variables to examine the responsiveness of narrative disclosure to positive versus negative market returns. Specifically, TEX represents a vector of textual properties that consists of reporting time lag (TLAG), tone (TONE), number of words (NW), number of 8-K filings (N8K), number of 8-K items (NITEM), number of exhibits (NEXHIBIT) and number of exhibits (NGRAPH).

We include several firm characteristics that affect narrative disclosure as controls to alleviate omitted variable bias. Specifically, we control for firm size as measured by the market value of equity (SIZE), growth opportunities as measured by market-to-book ratio (MTB) and leverage as measured by total debt deflated by total assets (LEV), because the three firm characteristics are documented as the main determinants of conservatism (Watts, 2003a; Qiang, 2007; Khan & Watts, 2009; García Lara, García Osma, & Penalva, 2009). Following Li (2010), we control for operating complexity of the firm (BUSSEG and GEOSEG), profitability (EARN), and operating risks (STD_EARN). Firms at early stage may face more uncertainties which lead to more cautious narratives. More complex operating environment may contribute to more complex disclosure. Profitability is one of the determinants of disclosure, and we controls for it to capture managerial discretionary disclosure. Operating risks influences disclosure because risk factors need to be disclosed with more detailed and more cautious narratives. Following Huang et al. (2014), we control for the expectations of future financial performane by analyst earnings forecast (AF) and analyst forecast error (AFE). Detailed variable definitions are provided in Appendix C.

The coefficient of interest in Equation (1) is β_3, which we interpret as the asymmetric responsiveness of textual properties to good versus bad news. We have predicted that if 8-K narrative disclosure is conservative, it will have shorter reporting time lag, greater marginal change of tone, and more contents in response to bad news relative to good news. Because ΔDRET is always negative when BN equals 1, we multiply all count variables (NW, N8K, NITEM, NEXHIBIT, NGRAPH and TLAG) by -1 for ease of interpretation. Under our hypotheses, β_3 should be negative for TLAG and positive for all the rest of textual variables.

3.5 Data

We obtain financial and segment data from Compustat, stock returns from the Center for Research in Security Prices (CRSP) and analyst earnings forecasts data from I/B/E/S. We retrieve 8-K data from EDGAR (see Appendix D for detailed description of EDGAR data collection process). Table 1 illustrates the sample selection process. We successfully parse and retrieve 1,540,911 unique 8-K filings out of 1,628,467 existing filings in EDGAR from 1993-Q1 to 2020-Q1. Next, we merge the EDGAR dataset with other datasets of firm characteristics and market performance. Finally, we screen the merged 8-K dataset according to the following criteria. We eliminate observations with missing value in key accounting and financial variables or with beginning-of-quarter stock prices below $1. We exclude financial (SIC code between 6000 and 6999) and utility (SIC code between 4900 and 4999) firms because of their different accounting procedures, and because they are highly regulated industries which makes them incomparable to other industries. We drop observations (a) with non-positive total assets or book value of equity or common shares outstanding, or (b) with negative or above 99% percentile reporting time lag, or (c) with below 1% percentile total number of words (133 words). We further delete observations that are matched to news days that immediately follow another news day, because such news days may merely reflect the reversal in market returns after a dramatic change in the previous day. All financial variables except returns are winsorized at 1% and 99% level to minimize the impact of outliers. Our final 8-K sample contains 83,464 firm-day observations from 6,477 unique firms from 1993 to 2020. Sample size can vary across different model specifications and is noted in each table.

4 Main Results

4.1 Summary Statistics

Table 2 Panel A presents summary statistics for key variables. 8-K filings respond to significant news in 15 days on average. TONE is negative on average potentially because the sentiment word list of Loughran and McDonald (2011) contains more negative (2,355) than

positive (354) words by construction. Daily, 8-Ks contain 1,207 words in total on average. In more than 75% of our 8-K firm-day observations, there is only one reported 8-K filing per day, and the maximum number of 8-K filings reported in one day is 4. Consistent with Segal and Segal (2016), firms report two 8-K items per day on average, with the maximum number of items being 16. Firms do not attach exhibits and graphs or only attach one exhibit and graphs to 8-Ks in most cases.[17] Regarding the financial variables, all but DRET and ΔDRET are winsorized, so these two variables contain some extremely high and low values. Our main results of 8-K hold if we winsorize DRET and ΔDRET.

Table 2 Panel B presents the descriptive statistics of 8-K items before and after August 23 of 2004.[18] The most commonly reported 8-K items before the reform are Item 7 'Financial Statements and Exhibits' (33.70%), Item 5 'Other Events' (27.44%) and Item 2 'Acquisition or Disposition of Assets' (12.55%), whereas after the reform the most frequent ones are Item 9.01 'Financial Statements and Exhibits' (37.72%), Item 2.02 'Results of Operations and Financial Condition' (18.91%) and Item 8.01 'Other Events' (9.11%). Voluntary disclosure, which consists of Item 12 and 2.02 'Results of Operations and Financial Condition,' Item 9 and 7.01 'Regulation FD Disclosure' and Item 5 and 8.01 'Other Events,' makes up for 43.66% (36.31%) of total 8-K items before (after) the 8-K reform. These statistics are consistent with He and Plumlee (2020) and indicate that firms frequently use voluntary 8-K filings to report relevant events to users. After the 8-K reform, the average reporting time lag and the length of 8-K filings are substantially reduced, potentially due to the shortened reporting deadlines (SEC, 2004) and SEC advocacy of plain English writing (SEC, 1999). The average tone also becomes more positive after the reform. The rest four textual attributes do not vary much

[17] The 8-K filing with maximum number of exhibits (https://www.sec.gov/Archives/edgar/data/1145404/000095013508006951/0000950135-08-006951-index.htm) reported 9 items, including 'Entry into a Material Definitive Agreement', 'Completion of Acquisition or Disposition of Assets', 'Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers: Compensatory Arrangements of Certain Officers'. The 8-K filing with maximum number of graphs (https://www.sec.gov/Archives/edgar/data/23217/000119312519102463/0001193125-19-102463-index.htm) announced a live audio webcast of a presentation aimed at investors.

[18] For brevity, we aggregate the sub-items into one 8-K item for observations after August 23 of 2004. For example, Item 1 subsumes Item 1.01, 1.02, 1.03 and 1.04. The same method applies to the rest of 8-K items. We specifically report the descriptive statistics for Item 2.02 because it is a voluntary item. The other two voluntary items 7.01 and 8.01 are the only sub-items in their categories so we do not report them separately.

along time. There are significant differences across items in terms of and reporting time lag, tone, length and number of graphs. Within voluntary items, the tone of 'Other Events' more negative and it is also lengthier than the rest of voluntary items on average, while 'Reg FD' contains more graphs than other voluntary items.

Table 2 Panel C present the correlation matrix of key variables in 8-K sample. The correlations between our five proxies for completeness are almost all positive and rarely exceed 0.3. This indicates that the five proxies measure completeness from different angles, but they still share some coherence at the same time.

4.2 Is 8-K Narrative Disclosure Conservative?

Table 3 presents the regression result of Equation (1). All regressions include firm and time fixed effects to control for unobservable firm characteristics and time trends that may bias our estimation. We cluster standard errors at 4-digit SIC code industry level to correct the potential existence of serial correlation in dependent variables (Petersen, 2009).[19] As predicted by H1a, the coefficient of ΔDRET$\times$BN is significantly negative for TLAG, which suggests that 8-K reporting time lag is shorter in response to bad news than to good news—that is, 8-K filings respond to bad news in a timelier manner relative to good news. Also, consistent with H1b, the coefficient of ΔDRET$\times$BN is significantly positive for TONE, which suggests that 8-K narratives are more news-consistent in response to bad news than to good news. Finally, in line with H1c, the coefficient of ΔDRET$\times$BN is significantly positive for almost all textual attributes that proxy for completeness.

Overall, our results illustrate that on average, firms issue more 8-K reports, which contain more items, exhibits and graphs, in a timelier and more news-consistent manner in response to bad news than to good news. All results are consistent with 8-K narrative disclosure being conservative.

[19] We cluster 8-K sample at industry level because firms within a same industry may employ similar disclosure policy, which leads to high correlations among observations in textual variables at industry level. Our clustering approach yields 373 clusters. Our results are robust to alternative clustering by firm.

4.3 Robustness Checks

We conduct a battery of robustness checks. First, to ensure that our results are not driven by the 8-K reporting time lag calculated under a specific matching process, we replicate our main analyses using an alternative 8-K time lag definition. That is, we reconstruct the 8-K time lag as the number of days between the 8-K reporting period date and the 8-K filing date (Carter & Soo, 1999; Niessner, 2015; Chapman et al., 2019). We do not adopt this definition of 8-K reporting time lag in our main analysis for two reasons. First, the reporting period date is the latest possible date, but not necessarily the exact date at which the underlying event occurs (SEC, 2004). Second, this reporting period date is self-reported by managers. Therefore, managers may have incentives to prolong or shorten the lag, which creates endogeneity concerns (Chapman et al., 2019).

We use the change in daily returns (ΔDRET) on the 8-K filing date as proxy for news, and set BN to 1 (0) if the negative (positive) change in daily market-adjusted stock return (ΔDRET) is three times larger than the firm's average decrease (increase) in daily return over the calendar year. Our results (untabulated) are robust to this alternative 8-K reporting lag definition.

Second, to address the concern that our 8-K results are driven by a priori bad news items that are expected to be more narratively conservative than other items, we delete all 8-K days that contain any of the a priori bad news items.[20] Our results (untabulated) are unaffected by the exclusion of a priori bad news items.

Third, to ensure that our 8-K reporting time lag strictly proxy for timeliness of narrative disclosure, that is, the time lag does not subsume the time needed to prepare quarterly or annually financial statements, we exclude 8-K days that contain information on quarterly or annual earnings, i.e., 8-K days that contain item 12 or item 2.02 (Segal & Segal, 2016).

[20] Segal and Segal (2016) classify the following 8-K items as a priori bad news: Item 1.02 'Termination of a Material Definitive Agreement,' Item 1.03 'Bankruptcy or Receivership,' Item 2.04 'Triggering Events That Accelerate or Increase a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement,' Item 2.06 'Material Impairments,' Item 3.01 'Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing,' Item 4.01 'Changes in Registrant Certifying Accountant,' and Item 4.02 'Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review.'

Our results (untabulated) remain quantitatively unchanged overall but the results regarding tone and number of words become statistically weaker.

5 Additional Analyses

5.1 Narrative Conservatism in Quarterly Reports

To the extent that narrative conservatism is a pervasive property of disclosure, it should be present in other narratives. We explore whether narrative conservatism is present in firm-issued reports other than 8-Ks, such as quarterly 10-Q reports. The 10-Q form is a comprehensive report that depicts quarterly firm performance, and it must be filed within 40 (for accelerated filers) or 45 days (for all other registrants) after fiscal quarter-end, according to Section 13 or 15(d) of the Securities Exchange Act of 1934.

10-Qs are of interest as they potentially provide more variation and diversity than 8-Ks in terms of narrative content. They have sections such as the notes to financial statements (NFS) and the managerial discussion and analysis (MD&A), where managers can discuss the economic implications of significant corporate events and issue forward-looking statements. Moreover, on average, 10-Qs are longer (contain more words) than 8-Ks. These features imply that 10-Qs are more flexible in content, giving managers more discretion on what to disclose and how, allowing for more variation in linguistic tone and completeness than 8-K filings. However, 10-Qs are not as timely as 8-Ks. 10-Qs are filed only once every quarter, on a relatively pre-arranged schedule that allows for limited variation in timeliness. By construction, 10-Qs cannot be as timely as 8-Ks in responding to unexpected corporate events, especially for events that happen early in a fiscal quarter.[21] Furthermore, 10-Qs contain quarterly financial statements, so the reporting time lag of 10-Qs does not measure solely the timeliness of narrative disclosure, but the aggregated timeliness of recognition and disclosure. Therefore, we do not study reporting timeliness in 10-Q analyses.

[21] In fact, one important motivation of the reform to 8-K filings in 2004 was to extend the number of 8-K items that must be reported within four days, to avoid delays in the disclosure of significant events until the due date for its next periodic report (SEC, 2004). Thus, the 8-K is the official SEC filing that allows firms to disclose material events in the timeliest manner.

We study 10-Q responsiveness to good versus bad news using the following model:

$$TEX_{i,t} = \beta_0 + \beta_1 QRET_{i,t} + \beta_2 NEG_{i,t} + \beta_3 QRET_{i,t} \times NEG_{i,t} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t}, \quad (2)$$

where, QRET denotes the quarterly market-adjusted stock returns. NEG is an indicator for bad news, which is set to 1 if QRET is negative, and 0 otherwise. CONTROLS is a vector of control variables. TEX represents a vector of textual properties, including TONE and NW. In 10-Q analyses, we only measure completeness by number of words because the other completeness proxies are unique features of 8-K filings, which do not apply to 10-Q sample.

We apply the same data collection procedure as before to parse 10-Q filings from EDGAR. Next, we merge the 10-Q dataset with the datasets containing data on firm characteristics (Compustat), market performance (CRSP) and analyst forecast (I/B/E/S). Finally, we screen the merged 10-Q dataset according to the same data selection criteria as for the 8-Ks. Our final 10-Q sample contains 116,156 firm-quarter observations from 6,419 unique firms from 1993 to 2020.

Table 4 Panel A presents the result of Equation (2). All regressions include firm and time fixed effects and standard errors are clustered at the 4-digit SIC code industry level. Consistent with H1b, the coefficient of QRET×NEG is significantly positive for TONE, which indicates that the tone of 10-Q narratives are more news-consistent in response to bad news than to good news. Also, as predicted by H1c, the coefficient of QRET×NEG is significantly negative for NW, consistent with 10-Q narratives being lengthier in response to bad news than to good news. Overall, this evidence is consistent with narratives in 10-Qs being, on average, conservative.

We exploit the greater length and content heterogeneity in 10-Qs to study whether narrative conservatism varies across sections of the 10-Q in a predictable manner. We identify two sections where content flexibility is likely to vary substantially: the MD&A section and the notes to the financial statements (NFS). The MD&A section provides an overall assessment of firm performance through the eyes of management. NFS provide detailed explanations of line items (FASB, 2018b; SEC, 2019). SEC (2019, Topic 9, 9110.2) requires

that "MD&A should not consist of generic or boilerplate disclosure. Rather, it should reflect the facts and circumstances specific to each individual registrant." If narrative conservatism is driven by information disclosure rather than boilerplate, which has little information content, then we expect MD&A narratives to be more conservative than NFS narratives.

We extract MD&A and NFS from 48,089 10-Q filings and calculate the logarithm of number of total words (NW_MDA and NW_NFS) and net positive tone per thousand words (TONE_MDA and TONE_NFS) for each filing. We reestimate Equation (2) for these proxies.

Table 4 Panel B presents the results. First, the signs of the coefficients QRET×NEG are consistent with H1b and H1c, confirming that overall 10-Q narratives are more news-consistent and lengthier in response to bad news than to good news. Second, the coefficients of QRET×NEG in Column 1 and 3 are more significant statistically compared to those in Columns 2 and 4, suggesting that the MD&A narratives are more conservative than the NFS narratives. Overall, these results indicate that narrative conservatism in 10-Qs is driven by the discretionary disclosure rather than boilerplate.

5.2 Voluntary and Mandatory Disclosure

Segal and Segal (2016) document that managerial strategic reporting of 8-Ks is more salient in voluntary 8-K items. Their results suggest that managers have more freedom to determine the timing, and potentially also the content and the rhetoric in voluntary disclosure. Thus, we expect voluntary disclosure to be more conservative than mandatory disclosure.

Following He and Plumlee (2020), we divide 8-Ks into voluntary and mandatory disclosure subsamples by the 8-K items reported in each firm-day observation. We classify an 8-K observation as voluntary disclosure if it contains at least one of the voluntary 8-K items identified by prior literature (Lerman & Livnat, 2010; He & Plumlee, 2020), i.e., Items 5, 9, 12 before and Items 8.01, 7.01, 2.02 after the 8-K reform. Otherwise, we classify it as our mandatory disclosure. Then, we reestimate Equation (1) using the two subsamples.

Table 5 presents the results of Equation (1) using voluntary (VD) and mandatory (MD) disclosure subsamples. Odd columns (even columns) show results for the voluntary (mandatory) disclosure subsample. The signs of the coefficients ΔDRET×NEG in all columns are consistent with H1a, H1b and H1c. For voluntary disclosure, the coefficients

of ΔDRET×NEG are significant for almost all textual attributes, suggesting that voluntary disclosure is timelier, more news-consistent and completer in response to bad news than to good news. For mandatory disclosure, ΔDRET×NEG is only significant in terms of TLAG. The significant differences in ΔDRET×NEG between the two types of disclosure indicate that voluntary disclosure is more narratively conservative than mandatory disclosure.

5.3 Trends in Narrative Conservatism

Accounting conservatism is a pervasive characteristic of accounting, that has existed for decades (Sivakumar & Waymire, 2003). To better understand narrative conservatism and its degree of pervasiveness over time, we estimate Equation (1) by fiscal year from 1995 to 2020. We start from 1995 because in early years (1993 and 1994) there are not sufficient 8-K observations to run yearly regression. We retain the coefficients of the interaction term ΔDRET×BN for all textual attributes across years, and draw a timeline using the coefficients that are significant. If the coefficient is insignificant in certain year then it is replaced as zero. For ease of interpretation, we multiply the coefficients of TLAG by -0.1 so that they are expected to be positive and comparable to the coefficients of the rest of textual attributes. We multiply the coefficients of TONE by 0.1 for the same reason. Graphically, the more conservative narrative disclosure is, the more positive is β_3.

Figure 2 plots our findings. Narrative timeliness (TLAG) is present in almost all sample years. However, news-consistency and completeness are not present until 2007. Overall, Figure 2 provides evidence of persistent narrative conservatism in accounting since 2010, potentially due to increasingly stringent regulation after the 2007 financial crisis. This figure also suggests that narrative conservatism is prevalent through time and not a temporary disclosure strategy that only manifests during a specific time period.

5.4 Narrative, Conditional and Unconditional Conservatism

We examine whether narrative conservatism systematically varies with conditional (CCONS) and unconditional conservatism (UCONS). Conceptually, these types of conservatism are likely to have different economic determinants (García Lara et al., 2009; Qiang, 2007). Watts

(2003a, 2003b) identifies four main determinants of conservatism in accounting: contracting, litigation, taxation, and regulation. Intuitively, it seems unlikely that narrative conservatism plays a clear role in contracting, given the very low likelihood that contract terms are written in terms of narratives (in place of numbers), particularly in debt contracts. Taxation is also unlikely to be a main driver of narrative conservatism. Potentially, only litigation risk and political/regulatory costs are associated to all types of conservatism. The empirical evidence on the relationship between properties of textual disclosures and conditional/unconditional conservatism is scarce. One related study is D'Augusta and DeAngelis (2020), which documents that conditional conservatism is negatively associated with upward tone management. While they interpret their results as conditional conservatism disciplining tone management, their evidence could also be interpreted as consistent with the two types of conservatism being complements. Given the limited existing empirical evidence, and since narrative disclosure is endowed with both complementary and supplementary roles, *overall* the relationships between narrative conservatism and conditional and unconditional conservatism is an empirical question.

We follow Khan and Watts (2009) to construct a firm-year measure of conditional conservatism (C_SCORE)[22] and merge it with our firm-day level 8-K data. Next, we divide the 8-K sample into high and low CCONS subsamples using the median of C_SCORE as a benchmark. We reestimate Equation (1) within these subsamples.

Table 6 presents the results. The coefficients of ΔDRET$\times$BN are more significant in the low CCONS subsample than in the high CCONS subsample in terms of TONE, N8K, NITEM and NEXHIBIT. For TLAG and NGRAPH, the coefficients of ΔDRET$\times$BN are statistically significant in both subsamples, but the coefficients in the low CCONS subsample are economically larger (-4.639 v.s. -2.687 and 0.391 v.s. 0.244). This suggests that firms with low CCONS are more conservative in narrative disclosure, consistent with narrative conservatism and conditional conservatism being supplements.

Next, we study whether narrative conservatism systematically varies with unconditional

[22] See the C_SCORE construction process and summary statistics in Table 1 of Online Appendix. The summary statistics of C_SCORE are consistent with Khan and Watts (2009) overall.

conservatism (UCONS). We have argued that an essential role of narrative disclosure is to provide supplementary information when the underlying economic event cannot be recognized because it does not satisfy the recognition criteria (FASB, 1984). We study two cases where firms may not be able to convey news through recognition. First, news regarding intangible assets is often less measurable and thus more likely to be disclosed via narratives rather than recognized in financial statements. Second, because research and development (R&D) expenses cannot be capitalized, firms are more likely to disclose news regarding internally developed intangible assets via narratives. To the extent that firms with high intangible assets and R&D expenses are more unconditionally conservative, we expect firms these firms to also be more conservative in narrative disclosure.

We collect quarterly intangible assets (INTANQ) and R&D expenses (XRDQ) data from Compustat. We drop all observations with missing or negative INTANQ and XRDQ. Then we divide the full 8-K sample into high and low intangible assets (R&D expenses) subsamples using the median of the natural logarithm of INTANQ (XRDQ) as a benchmark. We reestimate Equation (1) using the subsamples and compare their results.

Table 7 presents the results for the intangible assets (Panel A) and R&D expenses (Panel B) partitions, respectively. In Panel A, the coefficients of ΔDRET$\times$BN are more significant in the high UCONS subsample compared to the low UCONS subsample in terms of TONE, NEXHIBIT and NGRAPHT. For TLAG and N8K, the β_3s of both subsamples are similarly significant statistically, but those in the low CCONS subsample are economically larger (-3.181 v.s. -6.326 and 0.049 v.s. 0.076). One exception is NITEM regressions, in which we observe narrative conservatism only in the low UCONS subsample. R&D expenses (Panel B) yields similar results as Panel A. Overall, the evidence indicates that firms with high intangible assets and high R&D expenses are more conservative in narrative disclosure, suggesting that narrative conservatism and unconditional conservatism are complements.

6 Summary and Conclusions

We define and document narrative conservatism. Using 8-K filings from 1993 to 2020, we analyze whether narrative disclosure responds to bad news in a more timely, news-consistent,

and complete manner than to good news. We find that narrative disclosure is conservative. In particular, 8-Ks are issued faster, their marginal change of tone is more news-consistent, and they contain more words, filings, items, exhibits and graphs in response to bad news than to good news. We document that narrative conservatism is also present in quarterly reports (10-Qs), and is more salient in voluntary disclosure. Moreover, we show that conservatism is a persistent property of accounting narratives. Finally, we provide initial evidence that narrative conservatism is more pronounced in firms with low conditional conservatism and high unconditional conservatism.

Despite the overall evidence of conservatism in narrative disclosure, many unanswered questions remain. First, we estimate narrative conservatism along three information dimensions: timeliness, news-consistency and completeness. Perhaps an aggregate measure that encompasses all dimensions could be constructed. We do not attempt to do it, to avoid creating a narrative disclosure index that lacks informational granularity and economic interpretation. However, such an aggregate measure of narrative conservatism may be useful for future research. Second, prior literature suggests that conditional conservatism reduces information asymmetries (García Lara, García Osma, & Penalva, 2014) and cost of capital (Suijs, 2008; García Lara, García Osma, & Penalva, 2011; Guay & Verrecchia, 2018), improves investment efficiency (Francis & Martin, 2010; Bushman, Piotroski, & Smith, 2011; García Lara, García Osma, & Penalva, 2016) and contracting efficiency (Watts, 2003a; Zhang, 2008). Future research may study the economic implications of narrative conservatism, and its valuable for information users, and whether different types of users have preferences over certain dimensions of narrative conservatism. Third, as an important extension, we posit that whether narrative conservatism has economic implications depends largely on whether and to what extent narrative disclosure is verifiable, or conveys credible information. Rogers et al. (2011) propose litigation risk as an effective mechanism to ensure that managers are not simply engaging in cheap talk in narratives. Besides litigation risk, whether there exist other mechanisms, such as managerial reputation and career concerns, that regulate narrative disclosure is under-explored. To sum up, there are many research opportunities in the narrative conservatism area.

References

Aboody, D. (1996). Recognition versus Disclosure in the Oil and Gas Industry. *Journal of Accounting Research*, *34*, 21–32.

Aboody, D., & Kasznik, R. (2000). CEO Stock Option Awards and the Timing of Corporate Voluntary Disclosures. *Journal of Accounting and Economics*, *29*(1), 73–100.

Alford, A. W., Jones, J. J., & Zmijewski, M. E. (1994). Extensions and Violations of the Statutory SEC Form 10-K Filing Requirements. *Journal of Accounting and Economics*, *17*(1-2), 229–254.

Baginski, S. P., Campbell, J. L., Hinson, L. A., & Koo, D. S. (2018). Do Career Concerns Affect the Delay of Bad News Disclosure? *The Accounting Review*, *93*(2), 61–95.

Baiman, S., & Verrecchia, R. E. (1996). The Relation Among Capital Markets, Financial Disclosure, Production Efficiency, and Insider Trading. *Journal of Accounting Research*, *34*(1), 1–22.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting and Economics*, *39*(1), 83–128.

Bao, D., Kim, Y., Mian, G. M., & Su, L. N. (2019). Do Managers Disclose or Withhold Bad News? Evidence from Short Interest. *The Accounting Review*, *94*(3), 1–26.

Barth, M. E., Clinch, G., & Shibano, T. (2003). Market Effects of Recognition and Disclosure. *Journal of Accounting Research*, *41*(4), 581–609.

Basu, S. (1997). The Conservatism Principle and The Asymmetric Timeliness of Earnings. *Journal of Accounting and Economics*, *24*(1), 3–37.

Beaver, W. H., & Ryan, S. G. (2005). Conditional and Unconditional Conservatism: Concepts and Modeling. *Review of Accounting Studies*, *10*(2-3), 269–309.

Bird, A., & Karolyi, S. A. (2016). Do Institutional Investors Demand Public Disclosure? *Review of Financial Studies*, *29*(12), 3245–3277.

Brockbank, B. G., & Hennes, K. M. (2018). Strategic Timing of 8-K Filings by Privately Owned Firms. *Accounting Horizons*, *32*(2), 163–182.

Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2011). Capital Allocation and Timely Accounting Recognition of Economic Losses. *Journal of Business Finance & Accounting*, *38*(1-2), 1–33.

Carter, M. E., & Soo, B. S. (1999). The Relevance of Form 8-K Reports. *Journal of Accounting Research*, *37*(1), 119–132.

Chambers, A. E., & Penman, S. H. (1984). Timeliness of Reporting and the Stock Price Reaction to Earnings Announcements. *Journal of Accounting Research*, *22*(1), 21–47.

Chapman, K. L., Reiter, N., White, H. D., & Williams, C. D. (2019). Information overload and disclosure smoothing. *Review of Accounting Studies*, *24*(4), 1486–1522.

D'Augusta, C., & DeAngelis, M. D. (2020). Does accounting conservatism discipline qualitative disclosure? Evidence from tone management in the MD&A. *Contemporary Accounting Research*, 1911-3846.12598.

Davis, A. K., Piger, J. M., & Sedor, L. M. (2012). Beyond the Numbers: Measuring the Information Content of Earnings Press Release Language. *Contemporary Accounting Research*, *29*(3), 845–868.

Diamond, D. W. (1985). Optimal Release of Information By Firms. *The Journal of Finance*, *40*, 1071–1094.

Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, Liquidity, and the Cost of Capital. *The Journal of Finance*, *46*(4), 1325–1359.

EY. (2012). To the Point: Now Is the Time to Address Disclosure Overload.

FASB. (1984). *Statement of Financial Accounting Concepts No. 5—Recognition and Measurement in Financial Statements of Business Enterprises.*

FASB. (2018a). *Conceptual Framework for Financial Reporting—Chapter 3, Qualitative Characteristics of Useful Financial Information.*

FASB. (2018b). *Conceptual Framework for Financial Reporting—Chapter 8, Notes to Financial Statements.*

Field, L., Lowry, M., & Shu, S. (2005). Does disclosure deter or trigger litigation? *Journal of Accounting and Economics*, *39*(3), 487–507.

Francis, J. R., & Martin, X. (2010). Acquisition profitability and timely loss recognition. *Journal of Accounting and Economics*, *49*(1-2), 161–178.

Gao, M., & Huang, J. (2020). Informing the Market: The Effect of Modern Information Technologies on Information Production. *The Review of Financial Studies*, *33*(4), 1367–1411.

García Lara, J. M., García Osma, B., & Penalva, F. (2009). The Economic Determinants of Conditional Conservatism. *Journal of Business Finance & Accounting*, *36*(3-4), 336–372.

García Lara, J. M., García Osma, B., & Penalva, F. (2011). Conditional conservatism and cost of capital. *Review of Accounting Studies*, *16*(2), 247–271.

García Lara, J. M., García Osma, B., & Penalva, F. (2014). Information Consequences of Accounting Conservatism. *European Accounting Review*, *23*(2), 173–198.

García Lara, J. M., García Osma, B., & Penalva, F. (2016). Accounting Conservatism and Firm Investment Efficiency. *Journal of Accounting and Economics*, *61*(1), 221–238.

Glosten, L. R., & Milgrom, P. R. (1985). Bid, ask and transaction prices in a specialist market with heterogeneously informed traders. *Journal of Financial Economics*, *14*(1), 71–100.

Guay, W., & Verrecchia, R. E. (2018). Conservative Disclosure. *Journal of Financial Reporting*, *3*(1), 73–92.

Hassan, T. A., Hollander, S., van Lent, L., & Tahoun, A. (2019). Firm-Level Political Risk: Measurement and Effects. *The Quarterly Journal of Economics*, *134*(4), 2135–2202.

He, J., & Plumlee, M. A. (2020). Measuring disclosure using 8-K filings. *Review of Accounting Studies*, *25*(3), 903–962.

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, *31*(1-3), 405–440.

Huang, X., Teoh, S. H., & Zhang, Y. (2014). Tone Management. *The Accounting Review*, *89*(3), 1083–1113.

Kasznik, R., & Lev, B. (1995). To Warn or Not to Warn: Management Disclosures in the Face of an Earnings Surprise. *The Accounting Review*, *70*(1), 113–134.

Khan, M., & Watts, R. L. (2009). Estimation and Empirical Properties of a Firm-Year Measure of Accounting Conservatism. *Journal of Accounting and Economics*, *48*(2-3),

132–150.

Kothari, S. P., Li, X., & Short, J. E. (2009). The Effect of Disclosures by Management, Analysts, and Business Press on Cost of Capital, Return Volatility, and Analyst Forecasts: A Study Using Content Analysis. *The Accounting Review*, *84*(5), 1639–1670.

Kothari, S. P., Shu, S., & Wysocki, P. D. (2009). Do Managers Withhold Bad News? *Journal of Accounting Research*, *47*(1), 241–276.

Lang, M. H., & Lundholm, R. J. (2000). Voluntary Disclosure and Equity Offerings: Reducing Information Asymmetry or Hyping the Stock? *Contemporary Accounting Research*, *17*(4), 623–662.

Lerman, A., & Livnat, J. (2010). The New Form 8-K Disclosures. *Review of Accounting Studies*, *15*(4), 752–778.

Leuz, C., & Schrand, C. (2009). Disclosure and the Cost of Capital: Evidence from Firms' Responses to the Enron Shock. *NBER Working Paper Series*.

Leuz, C., & Verrecchia, R. E. (2000). The Economic Consequences of Increased Disclosure. *Journal of Accounting Research*, *38*, 91–124.

Li, F. (2010). The Information Content of Forward-Looking Statements in Corporate Filings—A Naïve Bayesian Machine Learning Approach. *Journal of Accounting Research*, *48*(5), 1049–1102.

Li, F. (2011). Textual Analysis of Corporate Disclosures: A Survey of the Literature. *Journal of Accounting Literature*, *29*, 143–165.

Loughran, T., & McDonald, B. (2011). When Is a Liability Not a Liability? Textual Analysis, Dictionaries, and 10-Ks. *The Journal of Finance*, *66*(1), 35–65.

Marinovic, I., & Varas, F. (2016). No news is good news: Voluntary disclosure in the face of litigation. *The RAND Journal of Economics*, *47*(4), 822–856.

Niessner, M. (2015). Strategic Disclosure Timing and Insider Trading. *Working Paper*.

Petersen, M. A. (2009). Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *Review of Financial Studies*, *22*(1), 435–480.

Pinsker, R. E. (2006). Has Firms' Form 8-K Filing Behavior Changed Since Section 409 of the Sarbanes-Oxley Act Became Effective? *Working Paper*.

Qiang, X. (2007). The Effects of Contracting, Litigation, Regulation, and Tax Costs on Conditional and Unconditional Conservatism: Cross-Sectional Evidence at the Firm Level. *The Accounting Review*, *82*(3), 759–796.

Rogers, J. L., & Van Buskirk, A. (2009). Shareholder litigation and changes in disclosure behavior. *Journal of Accounting and Economics*, *47*(1-2), 136–156.

Rogers, J. L., Van Buskirk, A., & Zechman, S. L. C. (2011). Disclosure Tone and Shareholder Litigation. *The Accounting Review*, *86*(6), 2155–2183.

Schipper, K. (2007). Required Disclosures in Financial Reports. *The Accounting Review*, *82*(2), 301–326.

SEC. (1999). *Division of Corporate Finance: Updated Staff Legal Bulletin No. 7 "Plain English Disclosure".*

SEC. (2004). *Final Rule: Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date; Rel. No. 33-8400; S7-22-02.*

SEC. (2009). *Final Rule: Interactive Data to Improve Financial Reporting; Rel. No. 33-9002; S7-11-08.*

SEC. (2019). *Financial Reporting Manual.*

Segal, B., & Segal, D. (2016). Are managers strategic in reporting non-earnings news? Evidence on timing and news bundling. *Review of Accounting Studies*, *21*(4), 1203–1244.

Sivakumar, K., & Waymire, G. (2003). Enforceable Accounting Rules and Income Measurement by Early 20th Century Railroads. *Journal of Accounting Research*, *41*(2), 397–432.

Skinner, D. J. (1994). Why Firms Voluntarily Disclose Bad News. *Journal of Accounting Research*, *32*(1), 38–60.

Skinner, D. J. (1997). Earnings Disclosures and Stockholder Lawsuits. *Journal of Accounting and Economics*, *23*(3), 249–282.

Suijs, J. (2008). On the Value Relevance of Asymmetric Financial Reporting Policies. *Journal of Accounting Research*, *46*(5), 1297–1321.

Tama-Sweet, I. (2009). Do Managers Alter the Tone of Their Earnings Announcements Around Stock Option Grants and Exercise? *Working Paper*.

Teoh, S. H., Welch, I., & Wong, T. J. (1998). Earnings management and the underperformance of seasoned equity offerings. *Journal of Financial Economics*, *50*(1), 63–99.

Tottie, G. (1991). *Negation in English speech and writing: A study in variation* (Vol. 4). Academic Press.

Watts, R. L. (2003a). Conservatism in Accounting Part I: Explanations and Implications. *Accounting Horizons*, *17*(3), 207–221.

Watts, R. L. (2003b). Conservatism in Accounting Part II: Evidence and Research Opportunities. *Accounting Horizons; Sarasota*, *17*(4), 287–301.

Yermack, D. (1997). Good Timing: CEO Stock Option Awards and Company News Announcements. *The Journal of Finance*, *52*(2), 449–476.

Zhang, J. (2008). The contracting benefits of accounting conservatism to lenders and borrowers. *Journal of Accounting and Economics*, *45*(1), 27–54.

Figure 1: 8-K Matching Process

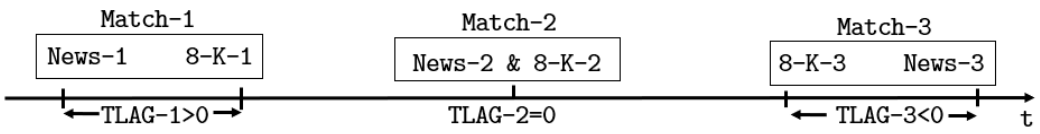
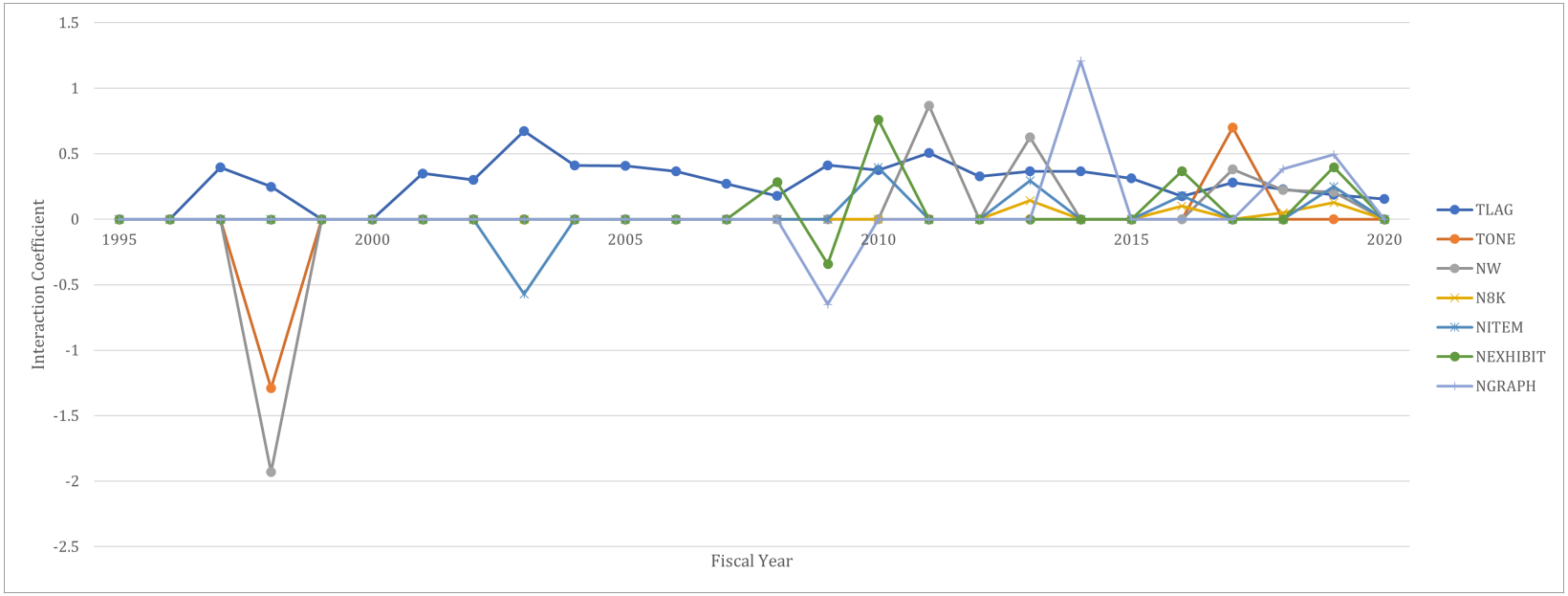


Figure 1 illustrates the 8-K sample matching process. We match every 8-K day to its nearest news day. The news day can be earlier than (Match-1), the same as (Match-2) or later than (Match-3) the 8-K day. TLAG is defined as the number of days elapsed between the 8-K filing date and its nearest news day.

Figure 2: Time Trend of Narrative Conservatism



$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Figure 2 illustrates the time trend of narrative conservatism. X axis represents fiscal year and Y axis represents significant β_3s obtained from yearly regressions as specified by Equation (1). Insignificant β_3s are replaced with zero. The coefficients of TLAG and TONE regressions are multiplied by -0.1 and 0.1 respectively to be comparable in economic magnitude to the coefficients of the rest of textual attributes.

Table 1. Sample Selection Process

	Number of observations	
Retrieved from EDGAR		1,540,911
After matching with Compustat and CRSP data		442,575
(-) Number of obs. from utility and financial firms	112,729	
(-) Number of firm-quarters with missing values in SIC, SIZE, MTB, LEV, or with non-positive total assets or book value of equity or common shares outstanding, or with common share price less than $1	46,865	
(-) Number of obs. with total words less than 1% percentile (133 words)	2,785	
(-) Number of obs. that are reversals of previous news day	5,160	
(-) Number of obs. with negative or larger than 99% percentile TLAG	154,861	
After dropping obs. with missing values in key variables and screening		120,175
After merging with IBES and Compustat Segment data (Full 8-K sample)		**83,464**

Table 2. Panel A: Summary Statistics 8-K

	count	mean	std	min	25%	50%	75%	max
Textual Variables								
tlag	83464	15	17	0	2	9	21	93
TLAG	83464	2.076	1.311	0.000	1.099	2.303	3.091	4.543
TONE	83464	-0.312	7.226	-97.851	-2.632	0.000	3.704	45.929
nw	83464	1207	6015	133	260	346	566	264704
NW	83464	6.074	0.874	4.898	5.565	5.849	6.340	12.486
n8k	83464	1	0	1	1	1	1	4
N8K	83464	0.707	0.076	0.693	0.693	0.693	0.693	1.609
nitem	83464	2	1	1	2	2	2	16
NITEM	83464	1.093	0.272	0.693	1.099	1.099	1.099	2.833
nexhibit	83464	1	1	0	1	1	1	59
NEXHIBIT	83464	0.668	0.430	0.000	0.693	0.693	0.693	4.094
ngraph	83464	2	9	0	0	0	1	464
NGRAPH	83464	0.424	0.785	0.000	0.000	0.000	0.693	6.142
Financial Variables								
DRET	83464	0.002	0.084	-0.929	-0.035	-0.003	0.037	3.085
ΔDRET	83464	-0.013	0.160	-9.062	-0.108	-0.045	0.092	3.023
BN	83464	0.536	0.499	0	0	1	1	1
SIZE	83464	6.805	1.816	3.023	5.508	6.698	7.977	11.587
MTB	83463	3.818	4.607	0.250	1.488	2.431	4.175	32.077
LEV	83039	0.211	0.191	0.000	0.018	0.186	0.340	0.732
AF	75810	0.044	0.112	-0.568	0.024	0.051	0.080	0.416
AFE	82548	-0.012	0.062	-0.438	-0.007	0.000	0.003	0.134
BUSSEG	83464	1.057	0.602	0.693	0.693	0.693	1.386	2.890
GEOSEG	83464	1.132	0.710	0.693	0.693	0.693	1.386	3.258
EARN	83454	-0.005	0.059	-0.296	-0.007	0.010	0.021	0.101
STD_EARN	83105	0.024	0.038	0.001	0.005	0.011	0.025	0.243

Table 2 Panel A presents the descriptive statistics of textual and financial variables in 8-K sample. See Appendix C for variable definitions.

Table 2. Panel B: Summary Statistics by 8-K Item

Item	count	percent	tlag	TONE	nw	n8k	nitem	nexhibit	ngraph
Before August 23, 2004									
1: Changes in Control of Registrant	2712	8.35%	17	-1.01	1076	1.04	3.48	1.05	0.47
2: Acquisition or Disposition of Assets	4074	12.55%	22	-4.35	7146	1.04	3.05	1.59	0.31
3: Bankruptcy or Receivership	54	0.17%	28	-3.84	12217	1.11	1.56	1.74	0.00
4: Changes in Registrant's Certifying Accountant	383	1.18%	24	-9.64	1217	1.03	1.82	0.95	0.02
5: Other Events	**8909**	**27.44%**	**20**	**-2.94**	**4272**	**1.02**	**1.81**	**1.34**	**0.10**
6: Resignation of Registrant's Directors	34	0.10%	23	-9.34	9247	1.03	2.21	2.03	0.06
7: Financial Statements and Exhibits	10942	33.70%	20	-3.18	5169	1.02	2.33	1.58	0.38
8: Change in Fiscal Year	71	0.22%	29	-2.15	6068	1.01	1.66	1.63	0.03
9: Reg FD	**2966**	**9.13%**	**16**	**-1.28**	**549**	**1.04**	**1.94**	**1.10**	**1.35**
10: Amendments to the Registrant's Code of Ethics	6	0.02%	27	0.09	289	1.17	3.50	1.00	7.17
11: Temporary Suspension of Trading	18	0.06%	20	-3.40	310	1.06	2.83	0.89	0.00
12: Results of Operation	**2303**	**7.09%**	**16**	**-0.62**	**329**	**1.04**	**3.86**	**1.12**	**0.54**
After August 23, 2004 (included)									
1: Registrant's Business and Operations	10825	7.58%	15	-3.44	839	1.08	2.85	1.84	1.48
2: Financial Information	31595	22.11%	13	1.02	463	1.05	2.41	1.30	2.19
2.02: Results of Operation	**27022**	**18.91%**	**12**	**1.95**	**404**	**1.05**	**2.29**	**1.22**	**2.28**
3: Securities and Trading Markets	1728	1.21%	13	-4.26	1129	1.12	3.69	2.41	1.92
4: Matters Related to Accountants and Financial Statements	478	0.33%	16	-10.32	770	1.09	2.32	1.19	0.57
5: Corporate Governance and Management	19494	13.64%	16	0.09	587	1.06	2.06	0.96	0.65
6: Asset-Backed Securities	2	0.00%	7	2.20	200	1.00	2.00	1.00	0.00
7: Reg FD	**11844**	**8.29%**	**11**	**0.33**	**562**	**1.09**	**2.65**	**1.36**	**8.97**
8: Other Events	**13009**	**9.11%**	**12**	**-0.85**	**569**	**1.09**	**2.46**	**1.38**	**1.98**
9: Financial Statements and Exhibits	53896	37.72%	13	0.49	500	1.05	2.41	1.39	3.00

Table 2 Panel B presents the descriptive statistics of key textual variables by 8-K items. Count represents the total number of times that each 8-K item is reported. Percent represents the percentage of each 8-K item calculated based on their number of appearances. See Appendix C for other variable definitions. Column tlag, TONE, nw, n8k, nitem, nexhibit and ngraph report the mean value of the corresponding variable in each 8-K item group. See Appendix A for 8-K item descriptions. Voluntary 8-K items are in bold.

Table 2. Panel C: Correlation Matrix 8-K

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) tlag		-0.069	0.103	-0.042	-0.055	0.004	-0.057	-0.010	-0.035
(2) TONE	-0.105		-0.232	-0.023	-0.092	-0.138	0.026	0.000	0.008
(3) nw	0.116	-0.415		0.017	0.004	0.308	-0.025	0.017	-0.006
(4) n8k	-0.058	-0.044	0.213		0.437	0.209	0.066	0.015	0.007
(5) nitem	-0.096	-0.114	0.197	0.302		0.461	0.091	0.008	0.004
(6) nexhibit	-0.069	-0.112	0.175	0.203	0.614		0.101	0.015	-0.007
(7) ngraph	-0.166	0.123	-0.028	0.102	0.299	0.314		0.004	0.003
(8) DRET	-0.021	0.005	-0.003	0.004	0.004	0.006	0.008		0.700
(9) ΔDRET	-0.048	0.013	-0.015	0.003	0.007	0.003	0.017	0.765	
(10) BN	0.051	-0.009	0.012	-0.002	-0.006	-0.003	-0.016	-0.774	-0.864
(11) SIZE	-0.095	0.068	0.020	0.026	0.009	0.003	0.091	0.021	0.070
(12) MTB	-0.006	0.029	0.038	-0.001	-0.015	-0.023	0.007	0.007	0.008
(13) LEV	-0.046	-0.037	0.075	0.028	0.029	0.046	0.073	0.015	0.024
(14) AF	-0.050	0.013	-0.018	0.004	0.017	0.030	0.039	-0.024	0.042
(15) AFE	-0.011	0.032	-0.020	0.008	0.002	-0.012	0.017	0.032	0.004
(16) BUSSEG	-0.070	0.095	0.035	0.027	0.044	-0.010	0.200	0.004	0.021
(17) GEOSEG	-0.076	0.094	0.041	0.023	0.041	-0.013	0.194	0.008	0.031
(18) EARN	-0.021	0.068	-0.069	-0.004	-0.001	-0.004	-0.019	0.045	0.059
(19) STD_QRET	0.018	-0.056	0.056	-0.011	-0.010	-0.009	-0.013	-0.030	-0.058

Table 2. Panel C: Correlation Matrix 8-K (Continued)

	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1) tlag	0.039	-0.075	-0.004	-0.039	-0.012	0.001	-0.061	-0.062	0.005	0.003
(2) TONE	-0.008	0.062	0.012	-0.028	-0.013	0.042	0.061	0.065	0.033	-0.037
(3) nw	0.004	-0.055	0.010	0.039	0.006	-0.016	-0.071	-0.073	-0.014	0.026
(4) n8k	-0.003	0.025	0.000	0.028	-0.001	0.005	0.027	0.020	0.002	-0.008
(5) nitem	-0.003	-0.001	-0.007	0.032	0.001	-0.003	0.036	0.026	-0.005	0.002
(6) nexhibit	0.006	-0.006	-0.002	0.053	0.004	-0.015	-0.010	-0.019	-0.025	0.021
(7) ngraph	-0.004	0.039	0.014	0.045	-0.003	0.003	0.079	0.073	-0.005	-0.004
(8) DRET	-0.587	-0.014	0.004	0.003	0.006	0.009	-0.007	-0.006	0.017	0.005
(9) ΔDRET	-0.765	0.057	-0.008	0.013	0.062	0.001	0.018	0.024	0.062	-0.055
(10) BN		-0.032	0.000	-0.011	-0.027	0.002	-0.015	-0.020	-0.031	0.027
(11) SIZE	-0.031		0.207	0.170	0.114	0.188	0.240	0.283	0.313	-0.259
(12) MTB	-0.004	0.346		0.104	-0.152	0.077	0.006	0.028	-0.055	0.129
(13) LEV	-0.014	0.219	-0.035		0.144	-0.071	0.089	0.054	0.070	-0.115
(14) AF	-0.028	0.030	-0.402	0.226		-0.184	0.058	0.080	0.375	-0.203
(15) AFE	-0.003	0.133	0.122	-0.061	-0.218		0.053	0.054	0.193	-0.110
(16) BUSSEG	-0.013	0.224	0.066	0.074	0.053	0.028		0.644	0.081	-0.091
(17) GEOSEG	-0.021	0.289	0.072	0.083	0.090	0.028	0.715		0.105	-0.111
(18) EARN	-0.030	0.349	0.226	-0.032	0.113	0.227	0.027	0.060		-0.470
(19) STD_EARN	0.028	-0.338	0.058	-0.177	-0.133	-0.066	-0.075	-0.101	-0.335	

Table 2 Panel C presents the correlation matrix of key variables in 8-K sample. Pearson (Spearman) correlations are exhibited above (below) the diagonal. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level.

Table 3. Is 8-K Narrative Disclosure Conservative?

Dep. Variables	(1) TLAG	(2) TLAG	(3) TONE	(4) TONE
ΔDRET	1.913***	2.007***	-1.744***	-1.171**
	(11.44)	(10.83)	(-2.86)	(-2.07)
BN	-0.021	-0.026	-0.120*	-0.125
	(-1.13)	(-1.15)	(-1.71)	(-1.64)
(Pred. Sign)	(-)	(-)	(+)	(+)
ΔDRET×BN	-2.966***	-3.182***	2.893***	1.849**
	(-8.42)	(-7.55)	(2.70)	(1.97)
SIZE		0.051***		0.115*
		(4.56)		(1.76)
MTB		0.002		-0.009
		(1.22)		(-1.08)
LEV		-0.007		-0.592
		(-0.11)		(-1.45)
EARN		-0.231*		3.059**
		(-1.70)		(2.51)
STD_EARN		-0.165		-2.705**
		(-0.72)		(-2.17)
BUSSEG		-0.028		-0.015
		(-1.52)		(-0.12)
GEOSEG		0.016		0.131
		(0.91)		(1.18)
AF		0.020		-0.019
		(0.20)		(-0.04)
AFE		0.045		1.713**
		(0.41)		(2.57)
Constant	-2.816***	-3.150***	-5.598**	-5.921***
	(-10.16)	(-10.85)	(-2.47)	(-2.71)
Observations	83,464	75,360	83,464	75,360
Adjusted R-squared	0.131	0.132	0.151	0.147

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 3 presents the regression results of Equation (1). TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-month fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 3. Is 8-K Narrative Disclosure Conservative? (Continued)

Dep. Variables	(5) NW	(6) NW	(7) N8K	(8) N8K	(9) NITEM	(10) NITEM	(11) NEXHIBIT	(12) NEXHIBIT	(13) NGRAPH	(14) NGRAPH
ΔDRET	-0.086*	-0.042	-0.034***	-0.039***	-0.075***	-0.079***	-0.105***	-0.110***	-0.151***	-0.212***
	(-1.78)	(-0.71)	(-3.43)	(-3.64)	(-3.34)	(-3.71)	(-2.99)	(-3.04)	(-3.03)	(-5.02)
BN	-0.015**	-0.015**	-0.002**	-0.003**	-0.004	-0.004	-0.003	-0.002	0.001	-0.001
	(-2.04)	(-2.19)	(-2.24)	(-2.43)	(-1.13)	(-1.05)	(-0.53)	(-0.36)	(0.16)	(-0.13)
(Pred. Sign)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)
ΔDRET×BN	0.127**	0.033	0.046***	0.051***	0.099***	0.104***	0.176***	0.175***	0.221***	0.298***
	(2.02)	(0.40)	(3.34)	(3.36)	(2.84)	(3.06)	(3.46)	(3.32)	(4.06)	(5.71)
SIZE		0.018**		-0.001		-0.002		-0.003		-0.004
		(2.13)		(-0.84)		(-0.70)		(-0.58)		(-0.60)
MTB		-0.002		-0.000		-0.000		-0.002***		-0.003***
		(-1.30)		(-0.43)		(-0.96)		(-2.88)		(-2.82)
LEV		-0.027		-0.008**		-0.021*		-0.007		0.005
		(-0.65)		(-2.43)		(-1.68)		(-0.32)		(0.11)
EARN		0.406***		-0.001		0.069*		0.113*		-0.064
		(3.84)		(-0.17)		(1.82)		(1.96)		(-0.87)
STD_EARN		-0.331***		-0.004		-0.098**		-0.112		0.243*
		(-2.75)		(-0.41)		(-2.11)		(-1.29)		(1.71)
BUSSEG		-0.008		0.000		0.002		0.003		-0.005
		(-0.71)		(0.21)		(0.39)		(0.42)		(-0.31)
GEOSEG		0.007		0.002**		-0.001		-0.011*		-0.011
		(0.67)		(2.27)		(-0.36)		(-1.82)		(-0.76)
AF		-0.026		0.004		0.015		0.029		-0.075
		(-0.47)		(0.52)		(0.74)		(0.66)		(-1.56)
AFE		-0.044		-0.009		-0.022		-0.091**		-0.164**
		(-0.69)		(-1.36)		(-0.86)		(-2.44)		(-2.37)
Constant	-7.291***	-7.295***	-0.688***	-0.684***	-0.872***	-0.843***	-0.506***	-0.459***	0.051	0.096
	(-27.57)	(-28.75)	(-190.40)	(-120.16)	(-25.72)	(-22.63)	(-4.91)	(-4.26)	(1.01)	(1.44)
Observations	83,464	75,360	83,464	75,360	83,464	75,360	83,464	75,360	83,464	75,360
Adjusted R-squared	0.443	0.427	0.021	0.024	0.139	0.142	0.109	0.107	0.256	0.263

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 3 presents the regression results of Equation (1). TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-month fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 4. Panel A. Narrative Conservatism in Quarterly Reports

Dep. Variables	(1) TONE	(2) TONE	(3) NW	(4) NW
QRET	-0.371***	0.095	-0.039***	-0.040***
	(-2.78)	(0.69)	(-3.54)	(-3.54)
NEG	-0.077	-0.075	-0.004	-0.005
	(-1.59)	(-1.52)	(-0.95)	(-1.08)
(Pred. Sign)	(+)	(+)	(+)	(+)
QRET×NEG	2.274***	1.191***	0.140***	0.094***
	(8.19)	(5.20)	(6.56)	(5.12)
SIZE		0.540***		-0.027***
		(6.36)		(-3.25)
MTB		0.046***		0.005***
		(3.79)		(5.18)
LEV		-1.212**		-0.293***
		(-2.48)		(-10.11)
EARN		14.674***		0.635***
		(5.54)		(3.80)
STD_EARN		-7.233***		-0.654***
		(-4.68)		(-6.85)
BUSSEG		0.468**		-0.019
		(2.22)		(-1.50)
GEOSEG		0.319*		0.020*
		(1.82)		(1.81)
AF		-3.316***		-0.043
		(-4.40)		(-1.07)
AFE		3.339***		0.168***
		(4.60)		(3.02)
Constant	-18.117***	-21.970***	-8.224***	-8.082***
	(-38.84)	(-36.79)	(-267.21)	(-156.81)
Observations	116,156	116,156	116,156	116,156
Adjusted R-squared	0.586	0.597	0.695	0.698

$$TEX_{i,t} = \beta_0 + \beta_1 QRET_{i,t} + \beta_2 NEG_{i,t} + \beta_3 QRET_{i,t} \times NEG_{i,t} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (2)$$

Table 4 Panel A presents the regression results of Equation (2) using subsamples of MD&A (Column 1 and 3) and NFS (Column 2 and 4) sections. TEX represents a vector of textual properties that consists of NW_MDA, NW_NFS, TONE_MDA and TONE_NFS. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-quarter fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 4. Panel B. Narrative Conservatism 10-Q Sections

Dep. Variables	TONE		NW	
	(1)	(2)	(3)	(4)
Section	MDA	NFS	MDA	NFS
QRET	0.109	0.297	-0.055***	-0.033*
	(0.64)	(1.15)	(-4.34)	(-1.70)
NEG	-0.123**	0.014	-0.012***	-0.005
	(-1.98)	(0.17)	(-3.05)	(-1.01)
(Pred. Sign)	(+)	(+)	(+)	(+)
QRET×NEG	1.423***	0.882*	0.102***	0.055*
	(4.54)	(1.88)	(4.18)	(1.65)
SIZE	0.626***	0.900***	-0.030***	-0.013
	(4.26)	(5.14)	(-3.36)	(-1.01)
MTB	0.021	0.054**	0.003**	0.004***
	(1.12)	(2.21)	(2.41)	(3.28)
LEV	-0.213	-0.802	-0.189***	-0.362***
	(-0.33)	(-0.94)	(-5.32)	(-5.88)
EARN	17.163***	12.079***	0.470**	0.693***
	(5.26)	(5.69)	(2.16)	(3.83)
STD_EARN	-8.090***	-6.020**	-0.547***	-0.816***
	(-4.64)	(-2.20)	(-3.35)	(-6.19)
BUSSEG	-0.065	-0.159	-0.057***	-0.031
	(-0.23)	(-0.45)	(-2.93)	(-1.58)
GEOSEG	0.052	0.999***	0.063***	0.036**
	(0.16)	(2.61)	(3.01)	(1.98)
AF	1.979*	-0.343	0.140	-0.073
	(1.86)	(-0.22)	(1.61)	(-0.95)
AFE	7.938***	4.137***	0.227***	0.243***
	(7.81)	(3.74)	(3.20)	(3.56)
Constant	-7.264*	-12.393**	-7.167***	-7.224***
	(-1.84)	(-2.57)	(-15.46)	(-18.08)
Observations	48,089	48,089	48,089	48,089
Adjusted R-squared	0.559	0.579	0.734	0.816

$$TEX_{i,t} = \beta_0 + \beta_1 QRET_{i,t} + \beta_2 NEG_{i,t} + \beta_3 QRET_{i,t} \times NEG_{i,t} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (2)$$

Table 4 Panel B presents the regression results of Equation (2) using subsamples of MD&A (Column 1 and 3) and NFS (Column 2 and 4) sections. TEX represents a vector of textual properties that consists of NW_MDA, NW_NFS, TONE_MDA and TONE_NFS. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-quarter fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 5. Narrative Conservatism in Voluntary and Mandatory Disclosure

Dep. Variables	TLAG		TONE	
	(1)	(2)	(3)	(4)
Disclosure Type	VD	MD	VD	MD
ΔDRET	2.375***	0.672***	-1.704**	-1.214
	(8.39)	(3.79)	(-2.43)	(-0.72)
BN	-0.063*	0.011	-0.040	-0.121
	(-1.96)	(0.49)	(-0.45)	(-0.54)
(Pred. Sign)	(-)	(-)	(+)	(+)
ΔDRET×BN	-4.176***	-0.831***	3.446***	1.337
	(-6.55)	(-3.54)	(2.81)	(0.62)
SIZE	0.057***	0.016	0.113	-0.100
	(3.48)	(1.15)	(1.49)	(-0.76)
MTB	0.004*	-0.003	-0.004	0.004
	(1.91)	(-1.30)	(-0.32)	(0.17)
LEV	-0.004	0.060	-0.812**	-0.529
	(-0.05)	(0.69)	(-2.09)	(-0.62)
EARN	-0.221	-0.378*	3.053**	3.373*
	(-1.05)	(-1.80)	(2.12)	(1.82)
STD_EARN	-0.307	0.314	-3.427**	-1.409
	(-1.09)	(0.80)	(-2.12)	(-0.61)
BUSSEG	-0.030	-0.014	0.025	-0.006
	(-1.26)	(-0.53)	(0.17)	(-0.02)
GEOSEG	0.029	-0.012	0.165	0.040
	(1.23)	(-0.56)	(1.33)	(0.20)
AF	0.045	0.101	-0.326	0.916
	(0.30)	(0.80)	(-0.58)	(0.81)
AFE	0.076	-0.369**	1.360*	1.551
	(0.51)	(-2.16)	(1.83)	(1.10)
Constant	-2.768***	-3.997***	-4.618*	-5.168
	(-7.65)	(-15.53)	(-1.70)	(-1.06)
Observations	53,460	21,900	53,460	21,900
Adjusted R-squared	0.155	0.116	0.194	0.136

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 5 presents the regression results of Equation (1) across voluntary and mandatory disclosure subsamples. TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-month fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 5. Narrative Conservatism in Voluntary and Mandatory Disclosure (Continued)

Dep. Variables	NW		N8K		NITEM		NEXHIBIT		NGRAPH	
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Disclosure Type	VD	MD	VD	MD	VD	MD	VD	MD	VD	MD
ΔDRET	-0.156**	0.039	-0.063***	-0.051	-0.048***	-0.020*	-0.092**	-0.017	-0.153***	0.030
	(-2.37)	(0.31)	(-2.72)	(-1.08)	(-4.07)	(-1.65)	(-2.25)	(-0.18)	(-2.64)	(0.47)
BN	-0.018**	0.002	-0.004	-0.007	-0.002	-0.002	-0.003	0.000	-0.017	0.010
	(-2.14)	(0.13)	(-0.99)	(-1.08)	(-1.59)	(-1.59)	(-0.39)	(0.01)	(-1.61)	(1.02)
(Pred. Sign)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)
ΔDRET×BN	0.210**	0.003	0.093***	0.045	0.070***	0.026	0.175***	0.050	0.133	0.031
	(2.18)	(0.02)	(2.91)	(0.75)	(5.44)	(1.60)	(2.86)	(0.47)	(1.61)	(0.42)
SIZE	0.011	0.035***	0.003	-0.003	-0.001	-0.001	0.000	0.005	0.006	-0.003
	(1.18)	(2.64)	(0.90)	(-0.63)	(-0.50)	(-0.88)	(0.04)	(0.45)	(0.56)	(-0.41)
MTB	0.000	-0.004**	-0.000	-0.001	-0.000	0.000**	-0.002***	-0.001	-0.003**	-0.001
	(0.02)	(-2.20)	(-0.16)	(-0.75)	(-1.01)	(1.99)	(-2.67)	(-0.93)	(-2.02)	(-0.69)
LEV	-0.102**	0.073	-0.033**	0.004	-0.012**	-0.001	-0.021	-0.026	-0.004	-0.008
	(-2.42)	(1.02)	(-2.30)	(0.16)	(-2.57)	(-0.22)	(-1.00)	(-0.51)	(-0.08)	(-0.22)
EARN	0.302***	0.270	0.047	0.103	-0.003	-0.009	0.109*	0.054	-0.110	0.054
	(2.72)	(1.42)	(1.20)	(1.34)	(-0.23)	(-0.99)	(1.94)	(0.44)	(-1.17)	(0.58)
STD_EARN	-0.254*	-0.021	-0.096*	-0.078	-0.004	-0.018	-0.014	-0.255	0.373**	-0.136
	(-1.94)	(-0.08)	(-1.69)	(-0.81)	(-0.25)	(-0.91)	(-0.17)	(-1.34)	(2.17)	(-1.10)
BUSSEG	-0.004	-0.025	0.006	-0.017**	0.000	0.000	0.012*	-0.027*	-0.015	0.001
	(-0.26)	(-1.11)	(1.35)	(-2.02)	(0.28)	(0.10)	(1.71)	(-1.75)	(-0.69)	(0.11)
GEOSEG	0.008	0.004	-0.004	0.003	0.002	0.003**	-0.022***	0.008	-0.018	-0.006
	(0.67)	(0.20)	(-0.87)	(0.33)	(1.28)	(2.54)	(-3.67)	(0.55)	(-0.92)	(-0.57)
AF	-0.033	0.013	0.003	0.005	0.002	0.001	0.026	0.031	-0.087	-0.073
	(-0.43)	(0.18)	(0.13)	(0.15)	(0.17)	(0.09)	(0.74)	(0.37)	(-1.08)	(-1.57)
AFE	0.013	-0.266**	0.034	-0.080	-0.019**	0.022**	0.005	-0.192**	-0.170*	-0.022
	(0.16)	(-2.05)	(1.17)	(-1.64)	(-2.33)	(2.19)	(0.12)	(-2.17)	(-1.77)	(-0.35)
Constant	-6.786***	-8.541***	-0.889***	-0.839***	-0.687***	-0.693***	-0.436***	-0.585***	0.000	-0.020
	(-28.58)	(-14.52)	(-18.87)	(-10.34)	(-96.80)	(-130.77)	(-4.01)	(-2.98)	(0.00)	(-0.44)
Observations	53,460	21,900	53,460	21,900	53,460	21,900	53,460	21,900	53,460	21,900
Adjusted R-squared	0.448	0.505	0.212	0.073	0.040	-0.023	0.162	0.139	0.360	0.141

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 5 presents the regression results of Equation (1) across voluntary and mandatory disclosure subsamples. TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-month fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 6. Narrative Conservatism and Conditional Conservatism

Dep. Variables	TLAG		TONE	
	(1)	(2)	(3)	(4)
CONS.	LOW	HIGH	LOW	HIGH
ΔDRET	2.647***	1.775***	-2.473**	-0.206
	(9.71)	(11.56)	(-2.33)	(-0.31)
BN	-0.051*	-0.009	-0.186	-0.079
	(-1.91)	(-0.33)	(-1.54)	(-0.80)
(Pred. Sign)	(-)	(-)	(+)	(+)
ΔDRET×BN	-4.639***	-2.687***	3.553**	0.549
	(-8.75)	(-8.84)	(2.17)	(0.54)
SIZE	0.087***	0.030**	0.092	0.101
	(4.69)	(2.12)	(0.92)	(1.07)
MTB	-0.000	0.003	0.018	-0.005
	(-0.09)	(1.09)	(0.81)	(-0.38)
LEV	-0.002	-0.082	-0.937*	-0.581
	(-0.02)	(-0.94)	(-1.81)	(-0.90)
EARN	0.031	-0.306	1.008	3.218**
	(0.13)	(-1.61)	(0.46)	(2.53)
STD_EARN	-0.041	-0.030	-2.801	-3.046***
	(-0.13)	(-0.10)	(-1.19)	(-2.65)
BUSSEG	-0.026	-0.025	-0.059	-0.046
	(-1.14)	(-0.78)	(-0.36)	(-0.23)
GEOSEG	0.034	0.004	0.031	0.253
	(1.55)	(0.18)	(0.22)	(1.56)
AF	0.153	-0.028	0.022	0.067
	(1.22)	(-0.22)	(0.03)	(0.10)
AFE	0.059	0.032	2.629***	0.810
	(0.34)	(0.21)	(2.75)	(0.83)
Constant	-2.845***	-2.492***	-0.198	-0.826
	(-17.51)	(-23.87)	(-0.25)	(-1.38)
Observations	38,881	35,134	38,881	35,134
Adjusted R-squared	0.139	0.120	0.133	0.154

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 6 presents the regression results of Equation (1) across high and low conditional conservatism subsamples. TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-month fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 6. Narrative Conservatism and Conditional Conservatism (Continued)

Dep. Variables	NW		N8K		NITEM		NEXHIBIT		NGRAPH	
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
CONS.	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
ΔDRET	-0.090	-0.015	-0.047***	-0.042***	-0.104***	-0.061**	-0.171***	-0.078*	-0.304***	-0.168***
	(-0.89)	(-0.21)	(-4.04)	(-2.73)	(-2.93)	(-2.30)	(-3.12)	(-1.68)	(-2.93)	(-3.34)
BN	-0.012	-0.022**	-0.002	-0.004**	-0.006	-0.002	-0.003	0.001	-0.011	0.002
	(-1.00)	(-2.13)	(-1.31)	(-2.57)	(-1.15)	(-0.32)	(-0.41)	(0.08)	(-0.78)	(0.16)
(Pred. Sign)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)
ΔDRET×BN	0.095	-0.025	0.066***	0.052**	0.127***	0.085**	0.281***	0.130**	0.391***	0.244***
	(0.66)	(-0.25)	(4.01)	(2.51)	(2.89)	(2.00)	(3.62)	(2.14)	(3.20)	(4.30)
SIZE	0.024**	0.013	-0.001	-0.000	-0.004	0.003	-0.012*	0.011	-0.003	-0.002
	(2.10)	(1.29)	(-0.79)	(-0.19)	(-1.26)	(0.86)	(-1.95)	(1.54)	(-0.29)	(-0.20)
MTB	-0.001	-0.003	-0.000	-0.000	-0.000	-0.001	-0.000	-0.003***	0.001	-0.004**
	(-0.47)	(-1.62)	(-0.07)	(-0.87)	(-0.16)	(-1.54)	(-0.29)	(-3.16)	(0.41)	(-2.40)
LEV	-0.074	0.035	-0.006	-0.010	-0.014	-0.016	-0.019	0.005	0.054	-0.047
	(-1.30)	(0.63)	(-1.03)	(-1.63)	(-0.66)	(-0.94)	(-0.60)	(0.16)	(0.76)	(-0.97)
EARN	0.263	0.486***	0.008	0.001	0.097	0.051	0.007	0.152**	0.003	-0.074
	(1.33)	(4.91)	(0.33)	(0.06)	(1.58)	(1.30)	(0.07)	(2.41)	(0.02)	(-0.89)
STD_EARN	-0.155	-0.335**	0.021	-0.021*	0.049	-0.162***	0.095	-0.186**	0.544**	0.077
	(-0.89)	(-2.32)	(0.88)	(-1.76)	(0.67)	(-3.04)	(0.61)	(-1.98)	(2.07)	(0.48)
BUSSEG	-0.006	-0.015	-0.000	0.001	-0.003	0.007	-0.001	0.002	-0.017	0.039*
	(-0.45)	(-0.82)	(-0.19)	(0.75)	(-0.51)	(1.15)	(-0.12)	(0.18)	(-0.85)	(1.70)
GEOSEG	0.019	0.010	0.002	0.003*	0.002	-0.002	-0.006	-0.006	0.005	-0.036*
	(1.59)	(0.67)	(1.41)	(1.85)	(0.37)	(-0.29)	(-0.67)	(-0.63)	(0.26)	(-1.78)
AF	-0.013	-0.024	0.001	0.010	0.018	0.006	0.053	-0.009	-0.100	-0.057
	(-0.16)	(-0.43)	(0.08)	(0.96)	(0.50)	(0.32)	(1.02)	(-0.17)	(-1.26)	(-0.86)
AFE	-0.020	-0.085	-0.011	-0.009	-0.016	-0.017	-0.141**	-0.081	-0.140	-0.142*
	(-0.23)	(-0.88)	(-1.09)	(-1.05)	(-0.47)	(-0.48)	(-2.53)	(-1.58)	(-1.28)	(-1.88)
Constant	-6.223***	-6.067***	-0.699***	-0.700***	-1.058***	-1.089***	-0.563***	-0.684***	-0.442***	-0.330***
	(-66.29)	(-94.80)	(-69.04)	(-110.27)	(-35.28)	(-51.80)	(-11.01)	(-14.53)	(-4.52)	(-6.45)
Observations	38,881	35,134	38,881	35,134	38,881	35,134	38,881	35,134	38,881	35,134
Adjusted R-squared	0.362	0.437	0.029	0.029	0.133	0.164	0.097	0.117	0.267	0.272

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 6 presents the regression results of Equation (1) across high and low conditional conservatism subsamples. TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include firm and year-month fixed effects and standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 7. Narrative Conservatism and Unconditional Conservatism

Dep. Variables	TLAG		TONE	
	(1)	(2)	(3)	(4)
Panel A: Intangible Assets	LOW	HIGH	LOW	HIGH
ΔDRET	1.975***	3.026***	-1.205	-2.647**
	(11.64)	(9.89)	(-1.23)	(-2.07)
BN	-0.032	-0.130***	-0.193	-0.060
	(-1.13)	(-4.26)	(-1.17)	(-0.38)
(Pred. Sign)	(-)	(-)	(+)	(+)
ΔDRET×BN	-3.181***	-6.326***	1.044	5.773**
	(-10.61)	(-13.28)	(0.82)	(2.42)
Constant	-3.065***	-3.588***	-0.478	-3.469
	(-3.58)	(-6.35)	(-0.06)	(-1.18)
Observations	29,136	31,806	29,136	31,806
Adjusted R-squared	0.118	0.146	0.132	0.123
Panel B: R&D Expenses	LOW	HIGH	LOW	HIGH
ΔDRET	1.651***	1.946***	-0.209	-1.566
	(6.85)	(7.52)	(-0.30)	(-1.33)
BN	0.011	-0.025	-0.149	-0.058
	(0.26)	(-0.91)	(-1.20)	(-0.50)
(Pred. Sign)	(-)	(-)	(+)	(+)
ΔDRET×BN	-2.426***	-2.983***	-0.325	2.432*
	(-5.65)	(-7.03)	(-0.39)	(1.66)
Constant	-2.520***	-2.678***	-1.751	-5.212
	(-4.66)	(-5.07)	(-0.25)	(-1.43)
Observations	19,740	22,608	19,740	22,608
Adjusted R-squared	0.106	0.143	0.184	0.115

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 7 presents the regression results of Equation (1) across high and low intangible assets and R&D expenses subsamples. TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include full set of control variables, firm and year-month fixed effects. Standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Table 7. Narrative Conservatism and Unconditional Conservatism (Continued)

Dep. Variables	NW		N8K		NITEM		NEXHIBIT		NGRAPH	
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Panel A: Intangible Assets	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
ΔDRET	0.041	-0.142	-0.033***	-0.042***	-0.098***	-0.053	-0.087	-0.195***	-0.148**	-0.467***
	(0.48)	(-1.02)	(-2.74)	(-2.90)	(-2.62)	(-1.25)	(-1.54)	(-2.95)	(-2.17)	(-3.88)
BN	-0.002	-0.029*	-0.002	-0.000	-0.007	-0.003	-0.000	-0.007	-0.001	-0.018
	(-0.13)	(-1.92)	(-1.10)	(-0.19)	(-0.83)	(-0.45)	(-0.04)	(-0.80)	(-0.07)	(-1.17)
(Pred. Sign)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)
ΔDRET×BN	-0.042	0.059	0.049***	0.076***	0.118*	0.048	0.135	0.272***	0.219**	0.622***
	(-0.34)	(0.32)	(3.01)	(3.48)	(1.95)	(0.76)	(1.51)	(2.72)	(2.14)	(3.18)
Constant	-6.439***	-7.127***	-0.692***	-0.692***	-0.745***	-0.890***	-0.314	-0.456***	0.156*	-0.173
	(-20.69)	(-21.31)	(-94.98)	(-64.07)	(-11.47)	(-14.91)	(-1.50)	(-2.71)	(1.79)	(-1.36)
Observations	29,136	31,806	29,136	31,806	29,136	31,806	29,136	31,806	29,136	31,806
Adjusted R-squared	0.385	0.315	0.022	0.036	0.144	0.133	0.113	0.088	0.257	0.282
Panel B: R&D Expenses	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
ΔDRET	-0.068	0.005	-0.054***	-0.031**	-0.120***	-0.007	-0.137**	-0.047	-0.050	-0.348***
	(-0.69)	(0.06)	(-2.60)	(-2.55)	(-3.08)	(-0.23)	(-1.98)	(-1.00)	(-0.63)	(-4.77)
BN	-0.017	-0.005	-0.008***	-0.001	-0.006	0.005	-0.003	0.013	0.011	-0.020
	(-1.23)	(-0.44)	(-3.60)	(-0.38)	(-0.84)	(1.02)	(-0.23)	(1.59)	(0.56)	(-1.53)
(Pred. Sign)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)
ΔDRET×BN	0.032	-0.010	0.054*	0.049***	0.137**	0.043	0.177**	0.197***	0.128*	0.388***
	(0.24)	(-0.08)	(1.95)	(4.22)	(2.03)	(1.03)	(2.22)	(3.08)	(1.71)	(4.30)
Constant	-7.250***	-7.660***	-0.657***	-0.676***	-0.795***	-0.852***	-0.476***	-0.400**	0.394**	-0.109
	(-8.77)	(-18.41)	(-25.93)	(-63.28)	(-10.34)	(-12.76)	(-3.74)	(-2.21)	(2.07)	(-1.01)
Observations	19,740	22,608	19,740	22,608	19,740	22,608	19,740	22,608	19,740	22,608
Adjusted R-squared	0.491	0.355	0.005	0.009	0.156	0.130	0.129	0.092	0.255	0.253

$$TEX_{i,t} = \beta_0 + \beta_1 \Delta DRET_{i,t-tlag} + \beta_2 BN_{i,t-tlag} + \beta_3 \Delta DRET_{i,t-tlag} \times BN_{i,t-tlag} + \sum \beta_n CONTROLS_{i,t} + \epsilon_{i,t} \quad (1)$$

Table 7 presents the regression results of Equation (1) across high and low intangible assets and R&D expenses subsamples. TEX represents a vector of textual properties. CONTROLS denotes a vector of control variables. See Appendix C for variable definitions. All financial variables except returns are winsorized at 1% and 99% level. All regressions include full set of control variables, firm and year-month fixed effects. Standard errors are clustered at industry level identified by 4-digit SIC codes. ***, ** and * indicate significance at the 1%, 5% and 10% levels in a two-tailed test.

Appendix

Appendix A: 8-K Item List

8-K Item List Before 2004-08-23

Item 1	Changes in Control of Registrant
Item 2	Acquisition or Disposition of Assets
Item 3	Bankruptcy or Receivership
Item 4	Changes in Registrant's Certifying Accountant
Item 5	*Other Events*
Item 6	Resignation of Registrant's Directors
Item 7	Financial Statements and Exhibits
Item 8	Change in Fiscal Year
Item 9	*Regulation FD Disclosure*
Item 10	Amendments to the Registrant's Code of Ethics
Item 11	Temporary Suspension of Trading Under Registrant's Employee Benefit Plans
Item 12	*Results of Operations and Financial Condition*

8-K Item List After 2004-08-23 (included)

Section 1	**Registrant's Business and Operations**
Item 1.01	Entry into a Material Definitive Agreement
Item 1.02	Termination of a Material Definitive Agreement
Item 1.03	Bankruptcy or Receivership
Item 1.04	Mine Safety - Reporting of Shutdowns and Patterns of Violations
Section 2	**Financial Information**
Item 2.01	Completion of Acquisition or Disposition of Assets
Item 2.02	*Results of Operations and Financial Condition*
Item 2.03	Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant
Item 2.04	Triggering Events That Accelerate or Increase a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement
Item 2.05	Costs Associated with Exit or Disposal Activities
Item 2.06	Material Impairments
Section 3	**Securities and Trading Markets**
Item 3.01	Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing
Item 3.02	Unregistered Sales of Equity Securities
Item 3.03	Material Modification to Rights of Security Holders
Section 4	**Matters Related to Accountants and Financial Statements**
Item 4.01	Changes in Registrant's Certifying Accountant
Item 4.02	Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review
Section 5	**Corporate Governance and Management**
Item 5.01	Changes in Control of Registrant
Item 5.02	Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers
Item 5.03	Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year
Item 5.04	Temporary Suspension of Trading Under Registrant's Employee Benefit Plans
Item 5.05	Amendment to Registrant's Code of Ethics, or Waiver of a Provision of the Code of Ethics
Item 5.06	Change in Shell Company Status
Item 5.07	Submission of Matters to a Vote of Security Holders
Item 5.08	Shareholder Director Nominations
Section 6	**Asset-Backed Securities**
Item 6.01	ABS Informational and Computational Material
Item 6.02	Change of Servicer or Trustee
Item 6.03	Change in Credit Enhancement or Other External Support
Item 6.04	Failure to Make a Required Distribution
Item 6.05	Securities Act Updating Disclosure
Section 7	**Regulation FD**
Item 7.01	*Regulation FD Disclosure*
Section 8	**Other Events**
Item 8.01	*Other Events*
Section 9	**Financial Statements and Exhibits**
Item 9.01	Financial Statements and Exhibits

Voluntary items are in italics.

Appendix B: 8-K Matching Cases

We check whether the 8-K filings are responses to their matched news releases, as proxied by large market movements. First, we randomly pick 50 good and bad news events. Next, we read the 8-Ks matched to the news and check if the corporate events depicted in the 8-Ks are in line with the market movements both in terms of direction and magnitude. We find that the 8-K matching cases make economic sense overall. See selected 8-K matching cases below.

Good News

Case 1: Drug Test Results Announcement; TLAG = 0

Rigel Pharmaceuticals, Inc. (CIK = 0001034842) experienced a significant rise in market-adjusted daily stock returns (ΔDRET = 2.21) on December 13 of 2007. On December 13 of 2007, the company filed an 8-K with ending reporting period on the same day, which contained Item 8.01: Other Events. This 8-K stated that "On December 13, 2007, Rigel Pharmaceuticals, Inc. announced the results of its Phase 2 clinical study of R788, an oral Syk kinase inhibitor, in patients with Rheumatoid Arthritis."

Case 2: Product Certification Announcement; TLAG = 0

Energous Corporation (CIK = 0001575793) experienced a significant rise in market-adjusted daily stock returns (ΔDRET = 1.68) on December 27 of 2017. On December 27 of 2017, the company filed an 8-K with ending reporting period on the same day, which contained Item 8.01: Other Events. This 8-K stated that "On December 26, 2017, Energous Corporation ('Company') issued a press release announcing approval by the Federal Communications Commission for the Company's mid-filed wire-free charging technology for transmitters with an expected range of approximately a few centimeters to one meter."

Case 3: Quarterly Earnings Announcement; TLAG = 1

Pareteum Corporation (CIK = 0001084384) experienced a significant rise in market-adjusted daily stock returns (ΔDRET = 1.27) on June 11 of 2017. On June 12 of 2017, the company filed an 8-K with ending reporting period on June 11 of 2017, which contained Item 7.01: Regulation FD Disclosure. This 8-K included a press release, which stated that "Pareteum Corporation (NYSE MKT: TEUM) ('Pareteum' or the 'Company'), a leading communications technology provider to global Mobile, MVNO, Enterprise and IoT markets, today announced that the Company expects to report revenues exceeding analyst expectations of $3 million for the second quarter ended June 30, 2017."

Case 4: Enter into Mergers and Acquisition Agreement; TLAG = 1

Panamerican Beverages, Inc. (CIK = 0000911360) experienced a significant rise in market-adjusted daily stock returns (ΔDRET = 1.05) on December 23 of 2002. On December 24 of 2002, the company filed an 8-Ks with ending reporting period on December 23 of 2002. The 8-K contained Item 5: Other events. The 8-K stated that "On December

22, 2002, Panamerican Beverages, Inc., a corporation organized under the laws of the Republic of Panama ('Panamco'), entered into an agreement and plan of merger (the 'Merger Agreement'), among Cola-Cola FEMSA, S.A. de C.V., a corporation organized under the laws of the United Mexican States ('Coca-Cola FEMSA'), Midtown Sub, Inc., a corporation organized under the laws of the Republic of Panama, and Panamco."

Case 5: Restructuring; TLAG = 2

Mastech Corporation (CIK = 0001024732) experienced a significant rise in market-adjusted daily stock returns (ΔDRET = 0.58) on March 7 of 2000. On March 9 of 2000, the company filed an 8-K with ending reporting period on March 7 of 2000, which contained Item 5: Other events. This 8-K stated that "On March 7, 2000, the Company issued a press release announcing its transformation into iGate Capital Corporation. Mastech Corporation will hereby be known as iGate Capital Corporation and its NASDAQ ticker will change from 'MAST' to 'IGTE'."

Bad News

Case 1: Enter into Mergers and Acquisition Agreement; TLAG = 0

Orbit International Corp. (CIK = 0000074818) experienced a significant drop in market-adjusted daily stock returns (ΔDRET = -1.70) on June 8 of 2000. On June 8 of 2000, the company filed an 8-K with ending reporting period on the same day, which contained Item 5: Other Events. This 8-K stated that "Orbit International Corp. announced that it has entered into a letter of intent with Homing, Inc. pursuant to which Orbit and Homing have agreed to combine. Under the terms of the proposed transaction, Homing will acquire all of the shares of Orbit in exchange for shares of common stock of Homing in a tax-free transaction."

Case 2: Submission of Matters to a Vote of Security Holders; TLAG = 0

Cerecor Inc. (CIK = 0001534120) experienced a significant drop in market-adjusted daily stock returns (ΔDRET = -1.67) on June 30 of 2017. On June 30 of 2017, the company filed one 8-K and one 8-K amendment with ending reporting period on the same day, which contained Item 5.07: Submission of Matters to a Vote of Security Holders. The 8-Ks included shareholder voting outcomes for five proposals, related to (a) election of board of directors, (b) ratification of the selection by the Audit Committee of the Board of Directors of the Company of Ernst & Young LLP as the independent registered public accounting firm of the Company, (c) approval of the issuance of common stock, (d) approval to effect a reverse stock split of the Company's common stock and (e) approval to effect a reduction in the total number of authorized shares of the Company's common stock.

Case 3: Departure of Directors or Certain Officers; TLAG = 1

Hill-Rom Holdings, Inc. (CIK = 0000047518) experienced a significant drop in market-adjusted daily stock returns (ΔDRET = -0.05) on October 22 of 2005. On October 23 of

2005, the company filed an 8-K with ending reporting period on October 22 of 2005, which contained Item 5.02: Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers: Compensatory Arrangements of Certain Officers. This 8-K stated that "Stan Burhans will not join Hill-Rom Holdings, Inc. ('Hill-Rom') as Vice President, Corporate Controller and principal accounting officer as previously reported. Richard Keller, Hill-Rom's current Vice President and Corporate Controller will continue in that role and will continue to serve as the Company's principal accounting officer. Hill-Rom terminated its agreement with Mr. Burhans on October 22, 2015, prior to Mr. Burhans commencing employment."

Case 4: Termination of a Material Definitive Agreement; TLAG = 1

Johnson Outdoors Inc. (CIK = 0000788329) experienced a significant drop in market-adjusted daily stock returns (ΔDRET = -0.05) on March 31 of 2005. On April 1 of 2005, the company filed an 8-K with ending reporting period on March 31 of 2005, which contained Item 1.02: Termination of a Material Definitive Agreement. This 8-K stated that "On March 22, 2005, a special meeting of the shareholders of the Company was held in order to vote upon a proposal to approve the Merger Agreement. The required shareholder vote was not obtained at such meeting and the Merger Agreement was terminated on March 31, 2005 by the Company and the Purchaser pursuant to the terms of the Merger Agreement. The termination of the Merger Agreement did not result in the imposition of any penalties on the Company."

Case 5: Changes in registrant's certifying accountant; TLAG = 2

Global Crossing Limited (CIK = 0001061322) experienced a significant drop in market-adjusted daily stock returns (ΔDRET = -0.16) on March 31 of 2004. On April 2 of 2004, the company filed an 8-K with ending reporting period on the same day, which contained Item 4: Changes in registrant's certifying accountant. This 8-K stated that "During the first quarter of 2004, the Board of Directors' newly established audit committee initiated a process to select an independent auditor for the Company. At the conclusion of that process, on April 1, 2004 a decision was reached by the audit committee to engage Ernst & Young LLP ('Ernst & Young') and to dismiss Grant Thornton LLP ('GT') as the Company's independent auditor for the year ending December 31, 2004, subject to the requirements of Bermuda corporate law."

Appendix C: Variable Definition

Textual Variables

Variable	Definition
tlag	Number of natural days elapsed between the 8-K filing date and its nearest news day
TLAG	Time lag, calculated as log(1+tlag)
TONE	Tone, defined as the number of net positive words per thousand total words, calculated as the total number of positive words minus total number of negative words, minus the total number of negations, and multiply the previous result by one thousand
nw	Raw count of total words of all 8-K filings in one reporting day
NW	Number of words, calculated as log(1+nw)
n8k	Raw count of total number of 8-K filings in one reporting day
N8K	Number of 8-K filings, calculated as log(1+n8k)
nitem	Raw count of total number of 8-K items in one reporting day
NITEM	Number of 8-K items, calculated as log(1+nitem)
nexhibit	Raw count of total number of exhibits in all 8-K filings in one reporting day
NEXHIBIT	Number of 8-K exhibits, calculated as log(1+nexhibit)
ngraph	Raw count of total number of graphs in all 8-K filings in one reporting day
NGRAPH	Number of 8-K graphs in one reporting day, calculated as log(1+ngraph)

Financial Variables

Variable	Definition
EARN	Quarterly earnings, defined as quarterly earnings before extraordinary items (Compustat data item IBQ) scaled by beginning-of-quarter total assets (Compustat data item ATQ)
LEV	Leverage ratio, defined as beginning-of-quarter short term debt (Compustat data item DLCQ) plus beginning-of-quarter long term debt (Compustat data item DLTTQ) scaled by beginning-of-quarter total assets (Compustat data item ATQ)
MTB	Market-to-book ratio, defined as beginning-of-quarter market value of equity, calculated as common share price (Compustat data item PRCCQ) times common shares outstanding (Compustat data item CSHOQ) divided by beginning-of-quarter book value of equity (Compustat data item CEQQ)
SIZE	Firm size, defined as the natural logarithm of market value of equity at the beginning of the quarter, calculated as natural logarithm of beginning-of-quarter common share price (Compustat data item PRCCQ) times beginning-of-quarter common shares outstanding (Compustat data item CSHOQ)
QRET	Quarterly market-adjusted stock return, defined as buy-and-hold stock return (CRSP data item RET) over the fiscal quarter adjusted by the value-weighted stock return (CRSP data item VWRETD) over the same period
DRET	Daily market-adjusted stock return, defined as daily buy-and-hold stock return (CRSP data item RET) adjusted by the daily value-weighted stock return (CRSP data item VWRETD)
ΔDRET	Change in daily market-adjusted stock return (DRET), defined as current daily market-adjusted stock return minus one-day-lagged daily market-adjusted stock return
NEG	Indicator for negative quarterly return, which is set to 1 when market-adjusted stock return (QRET) is negative and 0 otherwise
BN	Indicator for daily bad news, which is set to 1 (0) if the negative (positive) change in daily market-adjusted stock return (ΔDRET) is three times larger than the firm's average decrease (increase) in daily return over the calendar year.
AF	Analyst forecast, defined as analysts' mean consensus forecast for one-year-ahead earnings per share, scaled by stock price per share at the end of the fiscal quarter (Compustat data item PRCCQ)
AFE	Analyst forecast error, defined as I/B/E/S earnings per share minus the median of the most recent analysts' forecasts, deflated by stock price per share at the end of the fiscal quarter (Compustat data item PRCCQ)
BUSSEG	Business segment, defined as the natural logarithm of one plus number of business segments, or one if item is missing from Compustat
GEOSEG	Geographical segment, defined as the natural logarithm of one plus number of geographical segments, or one if item is missing from Compustat
STD_EARN	Standard deviation of quarterly earnings (EARN) of a firm over the last five fiscal quarters

Appendix D: 10-Q and 8-K parsing

We develop a Python program to automatically parse, process and retrieve 10-K and 8-K filings from EDGAR database. Our algorithm consists of the following steps:

1. Download all quarterly master indexes from EDGAR using *python-edgar*[1] package.

2. Filter all 10-Q and 8-K filings[2] from EDGAR master index files and obtain the url of the *filing detail* webpage[3] for each of the 10-Q and 8-K filings.

3. Extract (a) the identification information[4] and (b) the url of report in HTM/TXT format[5] from the *filing detail* webpage for each of the 10-Q and 8-K filings.

4. Parse and cleanse[6] all 10-Q and 8-K filings with url of HTM/TXT format report, using *beautiful soup*[7] package.

5. Save all clean 10-Q and 8-K filings to local device.

6. Perform word count on clean 10-Q and 8-K filings using LM dictionary.[8]

Python scripts and processed datasets are available online via Github:
https://github.com/fengzhi22/narrative_conservatism

[1] Python-edgar package documentation available at https://github.com/edouardswiac/python-edgar

[2] Our analyses exclude amendments such as 10-Q/A and 8-K/A

[3] One example of filing detail webpage is available at https://www.sec.gov/Archives/edgar/data/320193/000032019320000050/0000320193-20-000050-index.html

[4] For example cik, accession number, reporting period, filing date and 8-K items etc.

[5] One example of report in HTM format is available at https://www.sec.gov/Archives/edgar/data/320193/000032019320000050/a8-kq220203282020.htm. We first search for url of main report in HTM format. If HTM format main report is not available, then we extract the url of TXT format full report. Each EDGAR filing can be accessed in three formats at maximum: regular text (*.txt), web pages (*.htm) and eXtensible Business Reporting Language, also known as XBRL (*.xml). Early filings in EDGAR are only in TXT format. Later filings extend to HTM format, and in 2009 the SEC adopted the XBRL for all corporate filings (SEC, 2009). Therefore, current existing EDGAR filings all contain a TXT file, and depending on their filing date and company reporting policy they may or may not contain HTM or XML files. All filings in XML format are also available in HTM format. The TXT files usually contain not only the main report, but also all other additional filing materials (if any) such as graphics, exhibits and press release etc. However, the HTM files only contain the main report. We mainly focus on the HTM files other than the TXT files because the former naturally filters out less relevant information, and provides a cleaner textual content of the essential information. XML files are not parsed due to low tractability.

[6] Cleansing steps are: (a) delete nondisplay section; (b) delete all tables that contains more than 4 numbers; and (c) delete all HTML tags

[7] Beautiful soup package documentation available at https://www.crummy.com/software/BeautifulSoup/bs4/doc/

[8] LM dictionary available at https://sraf.nd.edu/textual-analysis/resources/#LM%20Sentiment%20Word%20Lists

Online Appendix

Online Appendix. Table 1.
Panel A: Summary of Fiscal Yearly Regressions

Indep. Vars.	Prediction	Coeff.	S.E.	t-stats
Intercept		-0.005	0.024	-0.22
NEG		-0.007	0.033	-0.21
RET	(+)	-0.355	0.243	-1.46
RET×SIZE	(+)	0.052	0.126	0.41
RET×MTB	(-)	-0.030	0.258	-0.11
RET×LEV	(-)	0.007	1.133	0.01
RET×NEG	(+)	0.822	0.319	2.58
RET×NEG×SIZE	(-)	-0.096	0.132	-0.73
RET×NEG×MTB	(+)	0.050	0.260	0.19
RET×NEG×LEV	(+)	-0.504	1.195	-0.42
SIZE		0.002	0.008	0.20
MTB		0.003	0.016	0.16
LEV		-0.007	0.082	-0.08
NEG×SIZE		0.003	0.009	0.29
NEG×MTB		-0.002	0.016	-0.10
NEG×LEV		-0.0343	0.093	-0.37

$$
\begin{aligned}
EARN_{i,t} = \beta_0 &+ \beta_1 NEG_{i,t} + \beta_2 RET_{i,t} \\
&+ \beta_3 RET_{i,t} \times SIZE_{i,t} + \beta_4 RET_{i,t} \times MTB_{i,t} + \beta_5 RET_{i,t} \times LEV_{i,t} + \beta_6 RET_{i,t} \times NEG_{i,t} \\
&+ \beta_7 RET_{i,t} \times NEG_{i,t} \times SIZE_{i,t} + \beta_8 RET_{i,t} \times NEG_{i,t} \times MTB_{i,t} + \beta_9 RET_{i,t} \times NEG_{i,t} \times LEV_{i,t} \\
&+ \beta_{10} SIZE_{i,t} + \beta_{11} MTB_{i,t} + \beta_{12} LEV_{i,t} \\
&+ \beta_{13} NEG_{i,t} \times SIZE_{i,t} + \beta_{14} NEG_{i,t} \times MTB_{i,t} + \beta_{15} NEG_{i,t} \times LEV_{i,t} + \epsilon_{i,t}
\end{aligned}
\tag{3}
$$

Panel B: Summary Statistics of C_SCORE and G_SCORE

	mean	median	std. dev	max	min	p1	p25	p75	p99
C_SCORE	0.197	0.188	0.230	3.694	-2.304	-0.363	0.067	0.317	0.862
G_SCORE	-0.096	-0.100	0.138	1.483	-3.383	-0.501	-0.161	-0.017	0.226

$$C\_SCORE_{i,t} = \beta_6 + \beta_7 SIZE_{i,t} + \beta_8 MTB_{i,t} + \beta_9 LEV_{i,t} \tag{4}$$

$$G\_SCORE_{i,t} = \beta_2 + \beta_3 SIZE_{i,t} + \beta_4 MTB_{i,t} + \beta_5 LEV_{i,t} \tag{5}$$

Online Appendix Table 1 presents the key statistics in constructing C_SCORE and G_SCORE. Panel A presents the mean of coefficients, the mean of standard errors and the t-statistics obtained from 23 fiscal yearly regressions (Equation 3) using 8-K sample from 1993 to 2015. Panel B presents the summary statistics of C_SCORE and G_SCORE. C_SCORE and G_SCORE are calculated following Equation 4 and Equation 5 respectively. See Appendix B for variable definitions. All financial variables except returns are winsorized at 1% and 99% level.