Essays on Risk Factor Disclosures

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Contents

Abstract

This dissertation consists of two empirical essays on risk factor disclosures. The first essay examines language complexity, a much discussed aspect of these disclosures. Risk factor disclosures were mandated as a discussion of risks faced by the firm. However, industry has criticized them as being unclear and uninformative. A major reason cited for this is firms' defensive approach to risk factor disclosures, which involves discussing all possible risks to shield themselves from potential shareholder lawsuits. Using *Liberal court*, an exogenous measure of litigation risk, I examine the direct impact of litigation risk on the complexity of risk factor disclosures. I predict and find that, when firms anticipate a higher risk of shareholder litigation, their risk factor disclosure language shows more complexity, an effect which is stronger for bad news firms. In further tests, I find that risk factor disclosure complexity is associated with greater information asymmetry. Overall, my results are consistent with the argument that firms use risk factor disclosures to seek safe harbor from litigation and in the process, make the language complex and less informative.

The second essay examines the role of management in drafting of risk factor disclosures. While risk factor disclosures have invited academic debate about their informativeness, there is little evidence on how management influences them. Practitioners note that these disclosures are primarily driven by legal teams. In this paper, I use CEO changes to provide evidence on whether managers influence risk factor disclosures. I find that in the years when a new CEO is appointed, there are changes in risk factor disclosures, and the negative and uncertain tone in these disclosures increases. These effects are more pronounced for firms with higher CEO share ownership but no different for firms with higher litigation risk. This suggests that my main results are not driven by the firm's concerns on the appointment of the CEO, but the concerns of the new CEOs themselves. I also find that the risk factor disclosure changes around CEO changes are not informative to the market. My results

suggest that there is management participation in risk factor disclosures, but this participation does not necessarily translate into higher informativeness.

Chapter 1

Risk Factor Disclosure Complexity and Litigation Risk: Evidence from Textual Analysis

1.1. Introduction

"I urge you —in long and short documents, in prospectuses and shareholder reports—to speak to investors in words they can understand. Tell them plainly what they need to know to make intelligent investment decisions."

—Arthur Levitt, former chairman of the U.S. Securities and Exchange Commission[1]

Risk factor disclosures were mandated by the SEC in 2005 as concise descriptions of the "most significant factors that make investment in the registrant or offering speculative or risky" (Regulation S–K, Item 105 SEC 2019).[2] However, practitioners have called these disclosures incomprehensible, generic, voluminous (EY, 2014; Higgins, 2014), and "a flood of words that obscures, rather than reveals, the actual risks that a company is facing" (Berkman, 2018; EY, 2017). Industry has argued that fear of securities litigation drives risk factor disclosures, increasing their volume and complexity (Berkman, 2018; EY & FERF, 2015). Additionally, anecdotal evidence has demonstrated that companies' attempts to streamline risk factor disclosures face resistance from legal counsel (EY, 2014). Thus, industry criticism has focused on litigation risk as a cause of complexity in risk factor disclosures.[3] This paper examines whether litigation risk[4] drives risk factor disclosure complexity and whether this

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[1] *A Plain English Handbook: How to create clear SEC disclosure documents, The Office of Investor Education and Assistance, SEC*

[2] https://www.govinfo.gov/content/pkg/CFR-2012-title17-vol2/pdf/CFR-2012-title17-vol2-sec229-503.pdf

[3] E.g., When the SEC asked for comments on the risk factor disclosure requirement, there were observations that litigation liability concerns contribute to risk factor disclosure length (https://www.sec.gov/rules/concept/2016/33-10064.pdf), Mary Jo White in a 2013 conference address mentioned that risk factor disclosures have become more and more extensive over time due to advice from legal attorneys (https://www.sec.gov/news/speech/spch101513mjw), industry reports have observed that the volume and complexity is driven by concerns to prevent shareholder litigation (EY & FERF, 2015), and that these disclosures sit in the "corner of the legal department, and the corner of the financial reporting" (Berkman, 2018).

[4] Borrowing from the Huang et al. (2019) study I define litigation risk to be the firm's risk of losing a shareholder lawsuit on account of a non-friendly judge panel, which I refer to as liberal court.

complexity in turn increases information asymmetry.

Thus far, most academic studies on risk factor disclosures have examined their informativeness and found that risk factor disclosures reflect firms' risk-related characteristics and that the market finds them useful. For instance, Filzen (2015), Campbell et al. (2014), and Campbell et al. (2019) find an association between risk factor disclosures and firms' negative outcomes such as future negative earnings, and Campbell et al. (2014), Chiu et al. (2018), and Filzen (2015) find that the market reacts to risk factor disclosures. Therefore, these studies have argued that risk factor disclosures are informative.

Thus, there is a considerable difference between industry and academic perceptions of risk factor disclosures, also noted by the SEC.[5] Beatty et al. (2019) attempt to reconcile this difference and find that the informativeness of risk factor disclosures has significantly decreased in the post-financial crisis era. However, practitioners' observation that litigation risk drives risk factor disclosure complexity suggests another important determinant of this difference.

The argument that litigation risk increases risk factor disclosure complexity stems from safe harbor provisions in the Private Securities Litigation Reform Act (PSLRA) of 1995. Under the PSLRA, firms can seek safe harbor from private lawsuits based on forward-looking statements, provided that the forward-looking statements are accompanied by cautionary language. After the risk factor disclosure mandate, firms have used risk factor disclosures to seek safe harbor protection by including extensive cautionary language (Cazier et al., 2020), which increases the complexity of disclosures. Thus, I argue that, in the presence of litigation

[5] SEC concept release no. 33-10064 notes: "Despite the inclusion of generic risks, however, academic studies find that risk factor disclosure is informative and that the public availability of this information decreases information asymmetry among investors." This comment cites academic studies on risk factor disclosure informativeness.

risk, risk factor disclosures become more complex and less informative. However, litigation risk may not be associated with risk factor disclosure complexity and informativeness, as firms may be so risk averse that they always consider the highest possible litigation risk and provide for it in their disclosures. The impact of litigation risk on risk factor disclosure complexity, thus, requires empirical examination.

In this paper, I use a measure called *Liberal court* (Huang et al., 2019) to understand the effect of litigation risk on risk factor disclosures. *Liberal court* measures the probability of a randomly selected three-judge panel being dominated by liberal judges in a circuit court of appeals. Huang et al. (2019) define liberal judges as those appointed by Democratic presidents and suggest that such judges are more anti-business than judges appointed by Republican presidents; with the consequence that a more liberal court is linked to higher litigation risk for firms. Since the appointment of liberal judges is exogenous to firm choices and characteristics, this measure enables me to cleanly assess the impact of litigation risk on risk factor disclosure complexity.

I use language complexity to capture the noise that difficult language can introduce in the understanding of disclosures. While a disclosure may contain many risk keywords (which creates an impression of high informativeness), readers may have difficulty understanding the disclosure if it is presented in a complex manner. I use three measures as proxies for language complexity: average sentence length, which calculates the length of an average sentence in the disclosure; unique vocabulary count, which counts the number of different words in the disclosure; and type-token ratio, which counts the different word types (lemmatized words) scaled by total words in a disclosure.

In my analysis, I find, that the complexity of firms' risk factor disclosures increases when they anticipate litigation risk. This is consistent with firms adopting a protective approach

and attempting to discuss risks more extensively to safeguard themselves from potential shareholder litigation – in line with practitioner observations. I then test and find that firms with poor performance, firms with other bad news indicators, and relatively new firms, all react more strongly than other firms to litigation risk by increasing the complexity of their risk factor disclosures. This is consistent with firms that are more prone or averse to shareholder lawsuits perceiving their litigation risk to be higher and choosing more complex language in their risk factor disclosures.

In further analyses, I test whether risk factor disclosure complexity has any negative effects on information asymmetry. Prior research has found that 10-K readability and complexity are associated with information asymmetry (Bushee et al., 2018), future volatility, and analyst dispersion (Bonsall et al., 2017; Loughran & Mcdonald, 2014). Therefore, we can expect a complex disclosure to be followed by divergent opinions. Alternately, language complexity may convey that the firm itself is complex and therefore be informative to the market. It is also possible that risk factor disclosures are not important to the market or that the market can see through language complexity, and so risk factor disclosure complexity does not elicit any market reaction. Using a stock bid-ask spread measure similar to the one created by Garfinkel (2009), I find that risk factor disclosure complexity is associated with higher information asymmetry around 10-K filing dates. I also check whether this association is present in other 10-K disclosures by running regressions of spread on the complexity of management discussion and analysis (MD&A) section of the annual report and find the results to not be significant. Thus the complexity-information asymmetry association that exists for risk factor disclosures may not exist for other disclosures like the MD&A section.

I then examine whether my main results hold for other measures of litigation risk. Using the litigation risk measure created by Kim & Skinner (2012), as well as an indicator for

shareholder litigation in the same industry-year, I find that the main results generalize to other measures of litigation risk and are not specific to using *Liberal court*.

In summary, I find that, in the presence of litigation risk, firms choose risk factor disclosure language in a way that makes disclosures more complex, and that this complex language is associated with higher information asymmetry around 10-K filing dates. Furthermore, firms that are more prone to shareholder lawsuits react more strongly to litigation risk than other firms. My main results are robust to using state fixed effects, industry-year fixed effects and industry-demeaned dependent variables.

Although the SEC amended its rules on risk factor disclosures in August 2020 to increase their comprehensibility (e.g., asking firms to provide a bullet-point summary for disclosures exceeding 15 pages, disclosing only "material" and not "most significant" risk factors, and disclosing general risk factors in a separate subsection), it is still important to empirically establish how litigation risk impacts the risk factor disclosure drafting process. Furthermore, while the SEC may encourage firms to shorten their risk factor disclosures, even shorter disclosures can become complex, thus compromising their understandability. Finally, it is important to empirically establish how complex disclosures impact information asymmetry and are associated with litigation risk.

My study contributes to two major branches of literature. First, it contributes to the literature on risk factor disclosures, which has identified an association between risk factor disclosures and litigation risk but has not determined whether litigation risk contributes to the complexity of risk factor disclosures. Moreover, it has not established whether risk factor disclosure complexity impacts informativeness. This paper examines the direct impact of litigation risk on risk factor disclosure complexity and further, the impact of risk factor disclosure language on informativeness, which is the theme of industry criticism directed at

risk factor disclosures. In doing so, I examine risk factor disclosures from the perspective of consumers of financial statements. Furthermore, in light of industry criticism of risk factor disclosures, I attempt to analyze and present litigation risk as a mediator of difficult-to-understand risk factor disclosures.

Second, my study contributes to the literature on litigation risk, specifically in relation to firm disclosures. Most studies on the association between litigation risk and firm disclosures have used management forecasts and their attributes as outcome variables of interest (e.g., Bourveau et al., 2018; Cao & Narayanamoorthy, 2011; Dong & Zhang, 2019; Houston et al., 2019, etc.), with a focus on the quantitative aspect of disclosures such as management forecasts. The literature examining qualitative disclosures is scant [e.g., Levy et al. (2018) examine the tone of Chief Financial Officers' speeches in conference calls]. Since qualitative disclosures provide more leeway for (a) managers to express themselves and (b) researchers to understand managerial decision-making, they are important tools for expanding current knowledge of the financial reporting process. I contribute to this stream of literature by examining mandatory disclosures, in contrast to managerial forecasts or conference calls, which have been the focus of existing literature.

The rest of this paper is organized as follows. Section 1.2 discusses the existing literature on risk factor disclosures and litigation risk and develops the hypotheses. Section 1.3 describes the research design and main variables. Section 1.4 presents the data, while Section 1.5 details the results. Section 1.6 explains the robustness tests used in this study. Finally, Section 1.7 concludes.

1.2. Literature Review and Hypothesis Development

1.2.1. Literature on Risk Factor Disclosures

Informativeness of Risk Factor Disclosures

The informativeness of risk factor disclosures can be viewed from two perspectives. First, risk factor disclosures are considered informative if they are associated with characteristics that proxy for firm risks. In this branch of literature, risk factor disclosures have been found to be associated with future losses, operating losses, a decline in sales and lawsuits (Gaulin, 2017), and negative quarterly changes in earnings (Filzen, 2015). In addition, Campbell et al. (2019) have found a positive association between tax risk keywords and future positive tax-related cash flows.

Second, risk factor disclosures are considered informative if the market reacts to them. In this branch of literature, the risk factor disclosure mandate has been found to be associated with CDS spreads and volatility (Chiu et al., 2018), analyst forecast errors, and volatility (Huang et al., 2021). Moreover, updates to risk factor disclosures have been associated with abnormal returns (Filzen, 2015), and their systematic and idiosyncratic risk content has been associated with beta and volatility of returns (Campbell et al., 2014).

Non-Informativeness of Risk Factor Disclosures

Limited literature exists to support industry criticism of the non-informativeness of risk factor disclosures. Using a topic modeling approach, Bao and Datta (2014) find that 22 out of 30 topics within risk factor disclosures are not informative enough and that 3 (5) topics lead to increased (reduced) risk perception by investors. Balakrishnan and Bartov (2011) do not find any relationship between negative sentiment score of risk section of the IPO prospectus with analyst forecasts. Most importantly, Beatty et al. (2019) find that, before 2008, the content of risk factor disclosures was associated with reactions in the equity, options, and bond markets,

as well as prediction of Z-score ranks; however, post-2008, this association has significantly weakened. Thus, they establish that one reason for the difference between industry and academic findings is a change in the informativeness of risk factor disclosures due to the financial crisis.

Prior studies on risk factor disclosure informativeness have two features. First, only a small part or no part of their sample corresponds to the years after the financial crisis.[6] Second, most studies use risk keyword counts as a proxy for the information in risk factor disclosures. As seen in the examples in Appendix B, risk factor disclosures may contain many risk keywords, but they could be presented in a manner that either confuses or does not convey much information to readers. In such cases, a word count of risk keywords may still provide the impression of a highly informative disclosure. To determine whether end users can understand and use these disclosures, it would be more insightful to measure the noise that complex language creates. My analysis attempts to use such measures for analysis.

Litigation Risk and Risk Factor Disclosures

From the perspective of financial statement preparers, risk factor disclosures can be tools to shield the firm from litigation risk, especially in light of safe harbor under PSLRA. The evidence in Huang et al. (2021) suggests that in the presence of risk factor disclosures, firms are more willing to disclose voluntary information in the form of higher and more positive forward-looking statements, management forecasts, and forecasts that are more optimistic, precise, and longer in horizon. This indicates that risk factor disclosures provide security to

[6] e.g. Kravet & Muslu (2013) use data from 1994-2007, Campbell et al. (2014) use data from 2005-08, Chiu et al. (2018) use 2003-2007 as sample period], and when they do, there is no distinction between pre- and post-crisis periods in their models [e.g. Campbell et al. (2019), Huang et al., (2021) and Filzen (2015) use data till 2010, Hope et al. (2016) use data till 2011, and Au et al. (2020) use data till 2013

firms in dealing with litigation risk. This idea is supported by Cazier et al. (2020), who find that shorter and more specific risk factor disclosures are more likely to be judged as inadequate in the courts, implying that the language of risk factor disclosures is useful for legally protecting firms.

In addition, Nelson and Pritchard (2016) find that the length of risk factor disclosures is positively associated with litigation risk and that firms with higher litigation risk alter their disclosures after the risk factor disclosure mandate but tend to keep them the same before the mandate. They also identify a positive and significant association between litigation risk and readability, which disappears after the mandate. They suggest that this is attributable to firms with low litigation risk improving the quality of their risk factor disclosures after the 2005 mandate.

In summary, the literature has provided evidence to support the idea that firms use risk factor disclosures as a shield against litigation and that the language of risk factor disclosures provides some safe harbor.[7] However, it remains unknown (a) whether firms' use of risk factor disclosures as a shield against litigation risk introduces complexity in the language of such disclosures, and (b) whether this complexity is associated with the informativeness of risk factor disclosures. I attempt to answer these questions in this paper.

1.2.2. Literature on Litigation Risk

In this section, I restrict my discussion of litigation risk research to studies that pertain to firm disclosures only. Studies on financial reporting as an antecedent to litigation risk have found that timely revelation of earnings news (or even issuance of warnings) and optimism in

[7] This can be summarized best in the words of an industry professional, "risk factors have taken on the dynamic of sitting in the corner of the legal department, and the corner of the financial reporting" (Berkman, 2018).

disclosures are associated with firms' likelihood of litigation (Donelson et al., 2012; Rogers et al., 2011), which supports the idea that disclosures can help manage litigation risk.

Studies on the effects of litigation risk on corporate disclosures can be organized according to whether disclosures are mandatory or voluntary and qualitative or quantitative in nature. Most studies on voluntary quantitative disclosures have examined the association between litigation risk and management forecast characteristics, such as forecast frequency (Bourveau et al., 2018; Dong and Zhang, 2019; Houston et al., 2019); probability of making forecasts (Cao and Narayanamoorthy, 2011; Houston et al., 2019); forecast horizon (Cao and Narayanamoorthy, 2011; Dong & Zhang, 2019); forecast precision and specificity (Dong and Zhang, 2019); the likelihood of issuing quantitative forecasts (Cao and Narayanamoorthy, 2011); good news forecasts (Johnson et al., 2001); forecast horizon, specificity, and precision of forecasts (Rogers & Van Buskirk, 2009). Additionally, Bourveau et al. (2018) examine voluntary 8-K frequency. Among qualitative disclosures, Rogers and Van Buskirk (2009) study earnings-related conference calls, while Levy et al. (2018) analyze the tone of conference call speeches by CFOs who are not part of a firm's board of directors.

On the topic of mandatory disclosures, Bourveau et al. (2018) analyze mandatory reporting quality, while Hopkins (2018) examines the likelihood of restatements. There is less evidence on the association between litigation risk and mandatory disclosures, and even less evidence on qualitative mandatory disclosures. Examining mandatory qualitative disclosures can provide information on how firms exercise discretion in choosing language when they do not have a choice about *making* the disclosure.

1.2.3. Hypothesis Development

As noted above, the literature has noted that litigation risk (with the exception of derivative lawsuits-specific litigation risk) encourages firms to disclose more, especially when

such disclosures pertain to bad news. In the context of risk factor disclosures, this means that informing investors of potential bad news can reduce the expected costs of securities litigation and help refute claims that the firm did not warn investors of potential bad news outcomes (Gaulin, 2017). Mary Jo White, the ex-chairman of the SEC, suggests that one source of disclosure complexity is a "company's decision to take a defensive posture and disclose more information rather than less to reduce the risk of litigation claims that there was insufficient disclosure" (White, 2013). That this decision is fruitful in avoiding litigation is revealed in the analysis of federal judgments by Cazier et al. (2020). They find that out of all the reasons cited in judgments that hold risk factor disclosures adequate, almost 10% include that risk factor language is extensive/lengthy/numerous,[8] and almost half include either that the language fulfilled the statutory requirement to warn investors of risks that could cause actual results to vary, or that language included the risk that actually transpired. The researchers suggest that "despite common assertions that risk factor disclosures are excessively boilerplate and lengthy, judges generally find this language to be adequate for firms to obtain safe harbor protection" (Cazier et al., 2020).

Given firms' incentive to take a defensive position and disclose more rather than fewer risks, I expect that firms that anticipate increased litigation risk would choose to discuss all possible risks, regardless of their likelihood. This would result in more complex disclosures. Alternatively, firms may be so risk averse that they always consider the highest possible litigation risk and provide for it in their disclosures. If so, increased litigation risk may not have

[8] For example, in the case of Smith & Wesson Holding Corp., the District Court of Massachusetts considered cautionary statements sufficient for the purpose of safe harbor by holding that "The statements are extensive and cover the ground identified by Plaintiffs as relevant." It also mentions that "A cautionary statement must warn of the alleged misrepresentations sufficiently that "the risk of real deception drops to nil."" In the case of General Growth Properties, the District Court of N. D. of Illinois mentions that "Identification of the principal contingencies that could cause actual results to differ from projections is sufficient."

any impact on risk factor disclosure complexity. Thus, my first hypothesis in null form is as follows:

H1: Litigation risk is not associated with risk factor disclosure complexity.

Next, to understand whether language complexity influences informativeness, it is important to understand the association between language complexity in risk factor disclosures and information asymmetry. Extant studies have observed poorer annual report readability to be associated with higher analyst dispersion (Lehavy et al., 2011; Loughran & Mcdonald, 2014), poorer credit ratings and higher cost of debt (Bonsall & Miller, 2017), and lower trading activity (Miller, 2010). In the case of risk factor disclosures, however, it is possible that disclosure complexity can reflect firm complexity and indicate the same to investors, thereby increasing informativeness. It is also possible that the market is able to see through the complexity of risk factor disclosures, or risk factor disclosures do not matter to the market. In this case, complexity may not be associated with information asymmetry. My second hypothesis in null form, is as follows:

H2: Risk factor disclosure complexity is not associated with information asymmetry.

1.3. Research Design and Variable Measurement

1.3.1. Text Scores

I use Python to compute the following text scores for risk factor disclosures to proxy for language complexity:

Average sentence length: Also used by Loughran and Mcdonald (2014), average sentence length refers to the average number of words in a sentence in a disclosure. Lengthier sentences (i.e., higher average sentence length) are considered more complex.

Unique Vocabulary: Loughran and McDonald (2014) create a measure called *vocabulary score* to count the number of unique words in a document that appeared in their master dictionary, divided by the total number of words in the master dictionary.[9] For ease of interpretation, I use this measure without dividing the number of unique words by the total number of words in the master dictionary. A higher number of words used from the dictionary suggests higher language complexity.

Type-token ratio: A measure borrowed from the linguistics and communication literature, type-token ratio refers to the ratio of the total number of distinct words in a document (i.e., "types") to the total number of words in the same document (i.e., "tokens"). All word forms of the same word are considered the same "type" (e.g., "is," "be," and "are" are the same type as "be"). Type-token ratio is used to measure lexical complexity and lexical proficiency in spoken and written communications. The higher the type-token ratio, the higher the communicator's proficiency and the higher the proficiency needed by the recipient to understand the communication. In a hypothetical, extreme case, no word, including its different forms, is repeated; in other words, every token is a different "type"; making the numerator and denominator the same, and the ratio equal to 1. Therefore, a higher type-token ratio denotes greater complexity.

1.3.2. Litigation Risk Measure

To proxy for litigation risk, I use Huang et al.'s (2019) measure of judge ideology. They measure litigation risk as the probability that a three-judge panel randomly selected from among the judges in the U.S. Court of Appeals would be dominated by liberal judges. Judges

[9] This dictionary is constructed using the English word list of 2of12inf dictionary and extended using words contained in 10-Ks not existing in the 2of12inf word list.

appointed by Democratic presidents are considered to be liberal judges. Huang et al. (2019) compute this measure at a monthly level for every Circuit Court of Appeals; I use the value of the measure for the last month of the firm's fiscal year and the circuit court with jurisdiction over the state in which the firm is headquartered. This is consistent with Huang et al.'s (2019) approach. In their sample, they find that 87% of securities class action lawsuits are filed in the states in which firms were headquartered. In my sample, I find that nearly 72% of securities class action lawsuits are filed in the states in which firms were headquartered.

Since the appointment of liberal judges is exogenous to firms' choices and characteristics, using the judge ideology measure enables me to reduce endogeneity in tests. It could be argued that firms can choose to establish their headquarters in a state with less liberal courts. However, even then, it may be difficult to predict retirements, resignations, new appointments, and changes in political regimes making appointments.

1.3.3. Information Asymmetry Measure

To run my tests on informativeness, I calculate information asymmetry similar to Garfinkel (2009). Using each firm's daily level stock data from CRSP I divide the ask – bid price for the firm's stock on a given day by the average of the ask + bid price for the firm's stock on the same day.[10] Then, I average this daily value over [0, 5] days or [0, 7] days around the 10-K filing date to create three spread variables. I use each of these three spread variables to conduct my analyses on information asymmetry.

1.3.4. Modeling the Influence of Litigation Risk on Risk Factor Disclosures

[10] This is similar to (Garfinkel, 2009) who uses TAQ data to arrive at an average daily bid-ask spread. He uses [(ask-bid)/(ask+bid)/2] at intra day level and then averages all values of the day to arrive at an average value for the entire day, which he then uses for analysis. In his analysis he uses intra day data to arrive at daily values, whereas I use daily data to arrive at yearly values.

To test the first hypothesis, I model risk factor disclosure complexity as a function of a firm's litigation risk. The model can be expressed as follows:

$$RFD\_complexity_{i,t} = \beta_0 + \beta_1 Liberal\_court_{i,t} + \sum_{k=2}^{18} \beta_k \, Controls_{i,t} + IndustryFE + YearFE + \varepsilon \quad \ldots(1)$$

where

$RFD\_complexity_{i,t}$ is one of *Average Sentence Length*, *Unique Vocabulary*, or *Type-Token Ratio*;

$Liberal\_court_{i,t}$ is a measure of litigation risk, as described above;

$Controls_{i,t}$ includes firm-level controls associated with risk and disclosures, such as time elapsed since the firm first appeared on Compustat ($Firm\_Age_{i,t}$); absolute accruals scaled by total assets ($Avg\_Accruals_{i,t}$); an indicator for Big N auditors ($BigN_{i,t}$); the book-to-market ratio ($BTM_{i,t}$); income before extraordinary items ($Income_{i,t}$); the firm's leverage ($Leverage_{i,t}$); the natural log of the firm's market value ($Size_{i,t}$); a dummy for loss-making firms ($Loss_{i,t}$); daily abnormal stock returns for the 250-trading day period ending two trading days before the 10-K release ($Abn\_return_{i,t}$); the standard deviation of excess daily abnormal stock returns for the 250 trading day period ending two trading days before the 10-K release (calculated using the market model) ($Stderet_{i,t}$); the firm's beta computed using the market model for the 250 trading day period ending two trading days before the 10-K release ($Beta_{i,t}$); the skewness of daily returns for the 250 trading day period ending two trading days before the 10-K release ($Returns\_skewness_{i,t}$); return on assets ($ROA_{i,t}$); average daily share turnover (expressed as a percentage) for the 250 trading day period ending two trading days before the 10-K release ($Sh\_turn_{i,t}$); and the natural log of risk factor disclosure length

($Ln\_RFDLength_{i,t}$); and Altman's Z-score ($ZScore_{i,t}$). I also use $Lit\_Risk\ KS_{i,t}$, the litigation risk measure created by Kim and Skinner (2012), to proxy for inherent firm characteristics that increase the likelihood of litigation. I incorporate industry and year fixed effects in my model, and cluster standard errors by firm. All variables are defined in Appendix A.

If firms create disclosures as protection against litigation and choose to disclose even less relevant and/or less probable risks to seek safe harbor in the face of increased shareholder litigation, I expect β_1 in Model (1) to be positive and significant. If firms believe that simpler language would afford them higher protection against litigation, then β_1 should be negative.

To test whether firms' response to litigation risk is shaped by characteristics that either make them more prone or averse to shareholder lawsuits, I conduct cross-sectional tests with proxies for poor performance, other bad news, and an aversion to shareholder lawsuits. I consider poor performance as a factor that makes firms more prone to shareholder lawsuits, based on prior findings that lawsuits are routinely filed against firms whenever there is a significant drop in stock price (Huang et al., 2019). I use three proxies for poor performance: negative cash flow from operations, below-median return on assets, and negative changes in earnings from the previous year. As a proxy for other bad news, I use the litigation risk measure created by Kim and Skinner (2012) and short interest. The Kim and Skinner (2012) measure considers several inherent firm characteristics that expose firms to shareholder lawsuits. Further, prior literature notes that short sellers can detect bad news hoarding by firms (Callen & Fang, 2015) – which when revealed can trigger shareholder lawsuits. Finally, I use early stages of the firm (CEO tenure) as a firm characteristic that is likely to make firms (CEOs) concerned about their reputation and thus more averse to litigation, because prior literature (e.g., Autore et al., 2014) has identified the reputational effects of securities litigation (e.g., Autore et al., 2014). For this, I use firm-years with below-median firm age (CEO tenure) as

proxy.

For all the above-mentioned tests, I create indicator variables that represent firm-years that are expected to be more prone or averse to shareholder lawsuits and include them separately and as interaction with *Liberal court*, the measure of litigation risk used in Model (1). A positive and significant coefficient on the interaction variable supports the idea that firms with higher concern for shareholder lawsuits (either due to characteristics that make them more prone to shareholder lawsuits or other conditions that make them more fearful of shareholder lawsuits) react more strongly to anticipated litigation risk than other firms.

For the second hypothesis, I model bid-ask spread as a function of risk factor disclosure complexity. The model can be expressed as follows:

$$Spread_{i,t} = \beta_0 + \beta_1 RFD\_complexity_{i,t} + \sum_{k=2}^{19} \beta_k \, Controls_{i,t} + IndustryFE + YearFE + \varepsilon \quad \ldots(2)$$

where $Spread_{i,t}$ is the bid-ask spread described in Section 3.3. I run the model using two different bid-ask spread windows and the same $Controls_{i,t}$ as in Equation (1), with one addition – I control for past bid-ask spread by averaging the bid-ask spread during [-252, -2] days relative to 10-K filing date.

If risk factor disclosure complexity decreases understandability for readers of financial statements, then β_1 in Equation (2) should be positive. However, if language complexity is informative of firm complexity, then I expect the bid-ask spread to decrease in the presence of complex language, thus making β_1 negative.

Next, I examine whether my main results remain consistent with different proxies for litigation risk. For this I use Equation (1) substituting *Liberal_court* with (a) the litigation risk

measure created by Kim & Skinner (2012)[11], and (b) an indicator variable that captures whether another firm within the same industry was sued in the financial year under consideration.

1.4. Data and Sample

My sample starts in 2009 to ensure that I only capture effects after the financial crisis since the informativeness of risk factor disclosures changed during this period (Beatty et al., 2019). I obtain the texts of risk factor disclosures from Calcbench. Sample construction is summarized in Table 1.1. I use *Liberal court*, a measure of litigation risk based on judge ideology created by Huang et al. (2019); obtained from the authors of the paper. Data on firm headquarters to match with the judge ideology data comes from Bill McDonald's website.[12] Data for computing bid-ask spreads is obtained from CRSP, and data on securities class action lawsuits is obtained from Stanford Securities Class Action Clearinghouse. Finally, data on control variables and partitioning variables is from CRSP, Compustat, Execucomp, Thomson Reuters Institutional (13F) holdings stock ownership summary database, and Compustat Supplemental Short Interest file.

1.5. Results

Table 1.2 presents summary statistics, segregated into observations with below- and above-median *Liberal court* scores. Column (13) presents the significance of the univariate test of differences between the means of below- and above-median observations. Univariate tests show that mean values for average sentence length and unique vocabulary are higher but mean type-token ratio is *lower* in the above-median *Liberal court* subsample. By comparison, the mean differences in MD&A complexity measures are much smaller in magnitude than

[11] While I used the Kim & Skinner (2012) measure as a control variable in my main tests, here I use this measure without adding any other litigation risk proxy to the model.
[12] Augmented 10-X header data accessed from https://sraf.nd.edu/data/augmented-10-x-header-data/

differences in the measures of risk factor disclosure complexity. Observations in the below-median *Liberal court* subsample are larger in size; exhibit a higher book-to-market ratio, leverage, ROA, and beta; are older, and more likely to employ Big N auditors. Observations in the above-median *Liberal court* subsample exhibit both, higher average income and a higher likelihood of incurring losses. Income in the above-median subsample also has a higher standard deviation. The above-median subsample has a higher mean standard deviation for excess returns, skewness of daily returns, share turnover, and longer length of disclosures. Moreover, observations in the below-median *Liberal court* subsample have lower values for alternate proxies for litigation risk too. All variables are defined in Appendix A.

1.5.1. Litigation Risk and Risk Factor Disclosure Complexity

The first hypothesis concerns the association between litigation risk and risk factor disclosure complexity. Table 1.3 presents the results of my tests. All odd-numbered columns present results without fixed effects, and all even-numbered columns present results with industry fixed effects and year fixed effects. The coefficients on *Liberal court* are positive and significant in all three regressions. These results are consistent with firms adopting a defensive position and disclosing all possible risks, thereby increasing the complexity of their disclosures. In terms of economic significance, a one standard deviation change in *Liberal court* is associated with a change of nearly 6% of standard deviation, 1.75% of standard deviation, and 1.25% of standard deviation in *Average Sentence Length*, *Unique Vocabulary*, and *Type-Token Ratio*, respectively. This suggests that higher expected litigation risk is associated with higher language complexity in risk factor disclosures.

1.5.2. Litigation Risk-Risk Factor Disclosure Complexity Association for Firms that Are More Prone to Shareholder Lawsuits

Next, I test whether firms' reactions to litigation risk are impacted by their current

characteristics, which may make them more or less prone or averse to shareholder lawsuits. If poor performance, bad news, and reputational concerns intensify firms' perceptions of their litigation risk, I expect that they would react more strongly to the anticipation of litigation risk by increasing the complexity of their risk factor disclosures.

Table 1.4 presents the results of a test on whether firm-years with poor firm performance are associated with a stronger reaction to litigation risk in the form of more complex risk factor disclosures. In Columns (1) to (3), the indicator variable for poor performance takes a value of 1 for firm-years with negative cash flow from operations (and 0 otherwise). In Columns (4) to (6), the indicator variable for poor performance takes a value of 1 for firm-years with below-median return on assets (and 0 otherwise). In Columns (7) to (9), the indicator variable for poor performance takes a value of 1 for firm-years in which there was a decrease in earnings vis-à-vis the previous year (and 0 otherwise). I add an interaction of *Liberal court* with my indicator for poor performance to model (1), along with separately adding the indicator for poor performance itself. Coefficients on the interaction terms for two out of three measures of risk factor disclosure complexity are positive and significant in all three proxies of poor performance, which indicates that firms with poor performance respond more strongly to litigation risk. This aligns with the expectation that firms more prone to shareholder lawsuits account for litigation risk more seriously.

Table 1.5 presents the results of a test on whether firm-years with other bad news are associated with a stronger reaction to litigation risk. Columns (1) to (3) use short interest as a measure of bad news hoarding by firms, while columns (4) to (6) use the litigation risk measure created by Kim and Skinner (2012), which represents firms' likelihood of facing shareholder lawsuits based on several firm characteristics. I create indicator variables that take value 1 for above-median values of both these proxies and 0 otherwise. I use interactions of these variables and these indicators themselves in my regressions. For both proxies, I find that the coefficients

on the interaction terms are positive and significant for two out of three measures of risk factor disclosure complexity, for both proxies of bad news. This suggests that firms that have other bad news, which makes them more attractive to shareholder lawsuits, respond more strongly when they anticipate litigation risk.

Table 1.6 presents the results of a test on whether firms or CEOs with potential reputational losses from shareholder lawsuits (and thus a greater aversion to shareholder lawsuits) react more strongly to litigation risk. Columns (1) to (3) use an indicator variable that takes a value of 1 for firms whose age is below the median ("Young Firm") and 0 otherwise, where age is the time since listing taken from Compustat, in the absence of actual incorporation date. Columns (4) to (6) use an indicator variable that takes a value of 1 for firms whose CEO tenure is below the median ("Early Tenure CEO") and 0 otherwise. As before, I use interactions between these indicator variables with and *Liberal court*, along with the indicator variables themselves in my regressions. I find that for two out of three dependent variables that proxy for risk factor disclosure complexity, the coefficients on the interaction terms are positive and significant when cross-sectional tests are done using young firms. However, the coefficients are not significant when cross-sectional tests are done using early-tenure CEOs. This suggests that (a) either shareholder lawsuits do not have an impact on CEO reputation; or (b) CEO reputation is not an important factor in the drafting of risk factor disclosures, perhaps because CEOs or top management have less input in drafting risk factor disclosures. Collectively, the cross-sectional results presented in Tables 1.4 to 1.6 suggest that firm characteristics intensify firms' perceptions of their litigation risk, thus leading them to react more strongly to the anticipation of litigation risk.

1.5.3. Risk Factor Disclosure Complexity and Informativeness

The second hypothesis concerns the association between risk factor disclosure

complexity and information asymmetry. The purpose of this set of tests is to assess whether the language complexity in risk factor disclosures has any effect on the market. I use average stock bid-ask spreads calculated for [0, 5], and [0, 7] days around the 10-K filing date to proxy for the information asymmetry in the market. I also control for average bid-ask spread in the period [-252, -2] days relative to 10-K filing date. The results are presented in Table 1.7. The coefficient on unique vocabulary and type-token ratio is positive and significant in both windows. The results are similar in significance and direction when average spreads for [-7, -2] and [-9,-2] days (i.e., 5 and 8 days before filing) are used as controls. While average sentence length does not seem to increase spread, the results with other two proxies provide some support to the idea that risk factor disclosure complexity increases information asymmetry in the market. In terms of economic significance, a one standard deviation change in unique vocabulary (type-token ratio) is associated with a 4.5% of standard deviation (5–6% of standard deviation) change in stock bid-ask spreads.

Next, I conduct placebo tests with MD&A complexity instead of risk factor disclosure complexity to determine whether the association between risk factor disclosure complexity and information asymmetry is generalizable to all disclosures. The results in Table 1.8 show that complexity measures for MD&A are not found to have an effect on firms' average stock bid-ask spreads around 10-K filing dates. This suggests that, unlike in the case of risk factor disclosures, language complexity in MD&A disclosures does not impair information asymmetry in the market. In other words, evidence is consistent with disclosure complexity-information asymmetry association not necessarily being pervasive to all disclosures.

1.5.4. Alternate Measures of Litigation Risk

Finally, I examine whether my main results are specific to using the *Liberal court* measure. I use two alternate measures of litigation risk. One, I use the litigation risk measure

created by Kim & Skinner (2012); and two, I use an indicator for shareholder lawsuit in the same industry-year as a proxy for litigation risk. The results are tabulated in Table 1.9. The significance and sign of coefficients on both litigation risk proxies suggest that my main results are not specific to using *Liberal court* as a measure of litigation risk and capture the effect of litigation risk.

1.6. Robustness Tests

It could be argued that risk factor disclosure complexity and *Liberal court* are both driven by unobservable state-level characteristics that may confound the results. To confirm that this is not the case, I run the main model with (a) state fixed effects instead of industry fixed effects and (b) state fixed effects *in addition to* industry fixed effects and year fixed effects. Table 1.10 indicates that the main results do not change when the specifications include state fixed effects. I further run my main model with industry X year fixed effects to remove any industry-year specific effects that may be driving my results. Results in Table 1.11 suggest that unobservable industry-year covariates are not driving my results. Finally, I demean my dependent variables with industry averages and rerun the main tests. Table 1.12 indicates that my main results are robust to using industry-demeaned dependent variables.

1.7. Conclusion

Risk factor disclosures were intended as discussions of risks that make investment in a firm speculative or risky. However, according to regulatory and industry criticism, these disclosures do not help understand firm risks because they are often generic, unclear, and voluminous. Some have argued that firms' desire to shield themselves from shareholder litigation is a major contributor to this complexity. In this paper, I test whether firms' anticipation of litigation risk impacts language complexity in risk factor disclosures and whether this complexity is associated with an increase in information asymmetry.

I find that when faced with litigation risk, firms choose their risk factor disclosure language in a way that ends up making the disclosures more complex. Moreover, this reaction is stronger among firms with poor performance or having other bad news that makes them more prone to shareholder lawsuits and among firms with reputational concerns that make them more averse to facing shareholder lawsuits. My use of *Liberal court*, a measure of litigation risk based on judge ideology, allows me to address endogeneity concerns in my analysis. My results are consistent for alternate proxies of litigation risk.

In further tests, I find a positive association between risk factor disclosure complexity and information asymmetry around 10-K filing dates. This association between language complexity and information asymmetry does not exist for the MD&A section of annual reports.

These results are consistent with firms' adopting a defensive approach and disclosing all possible risks to seek safe harbor from litigation, and in the process, making the language more complex and increasing information asymmetry. The evidence also suggests that firms that are more prone or averse to shareholder lawsuits perceive their litigation risk to be higher than other firms; therefore, they respond more strongly to litigation risk.

The results in this paper make several contributions. They provide empirical evidence for industry criticism of risk factor disclosure complexity and identify a contributor to this complexity. This is an addition to existing literature which primarily examines quantity of risk factor disclosures. The paper also contributes to the scarce literature on the impact of litigation risk on mandatory qualitative disclosures. These insights are important for understanding firms' motivations in the drafting of risk factor disclosures. Recently, the SEC amended rules for risk factor disclosures to make them more concise and understandable. Since the presence of litigation risk leads to an increase in complexity in risk factor disclosures, regulatory interventions such as the SEC's amendments may improve risk factor disclosures. Future

studies could analyze whether these amendments have successfully reduced the litigation risk-induced language complexity in risk factor disclosures and made them more informative. Future work in this area can also examine disclosure activity of firms that have a higher cost to language complexity .

TABLE 1.1: SAMPLE SELECTION

Particulars		**Observations**
Item 1A downloaded from Calcbench (Years 2008-19)		**82150**
Exclude:		
Forms other than 10-K & 20-F	330	
Disclosures containing < 100 words	9316	
Multiple filings for the same year	3664	
Duplicates	34	13344
Remaining disclosures from Calcbench data		**68806**
Exclude further:		
Financial years before 2009 and after 2018	9909	
Observations for which corresponding compustat data not found	15667	
Observations for which HQ states not found in LM's header file	490	
Observations for which HQ states are blank or foreign	4048	
Observations for which control variables not found	18686	
Singleton observations	244	49044
Remaining observations used in analysis		**19762**

TABLE 1.2: SUMMARY STATISTICS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Below Median Liberal_Court						Above Median Liberal_Court						Difference
VARIABLES	N	mean	p25	p50	p75	sd	N	mean	p25	p50	p75	sd	significance
Risk Factor Disclosure Characteristics													
Avg_SentLength	10,012	33.558	31.028	33.479	35.881	4.011	9,750	34.768	32.153	34.530	37.040	5.869	***
Unique_Vocab	10,012	1203.112	880.000	1168.000	1475.000	438.287	9,750	1381.338	1067.000	1351.000	1676.000	464.530	***
Type Token Ratio	10,012	0.165	0.129	0.158	0.193	0.054	9,750	0.147	0.113	0.139	0.168	0.050	***
Litigation Risk Measure													
Liberal_Court	10,012	0.244	0.176	0.247	0.332	0.116	9,750	0.636	0.581	0.668	0.704	0.084	***
Controls													
Firm_Age	10,012	27.637	13.000	22.000	41.000	18.275	9,750	23.429	11.000	19.000	30.000	16.474	***
Avg_Accruals	10,012	0.113	0.032	0.057	0.098	1.786	9,750	0.102	0.034	0.064	0.117	0.154	
BigN	10,012	0.778	1.000	1.000	1.000	0.416	9,750	0.735	0.000	1.000	1.000	0.441	***
BTM	10,012	0.508	0.245	0.431	0.696	1.351	9,750	0.463	0.193	0.374	0.645	0.771	***
Income	10,012	285.081	-2.021	30.388	162.638	1468.654	9,750	337.187	-12.655	12.584	120.911	2000.956	**
Leverage	10,012	0.231	0.019	0.196	0.341	0.252	9,750	0.204	0.000	0.148	0.320	0.239	***
Size	10,012	6.894	5.559	6.963	8.235	2.000	9,750	6.708	5.229	6.705	8.100	2.126	***
Loss	10,012	0.274	0.000	0.000	1.000	0.446	9,750	0.369	0.000	0.000	1.000	0.483	***
Abn_Return	10,012	0.001	-0.012	0.000	0.011	0.045	9,750	0.000	-0.013	0.000	0.012	0.045	
Stderet	10,012	0.024	0.014	0.020	0.029	0.017	9,750	0.027	0.016	0.023	0.033	0.019	***
Beta	10,012	1.127	0.798	1.104	1.440	0.524	9,750	1.105	0.792	1.096	1.410	0.534	***
Returns Skewness	10,012	0.287	-0.303	0.166	0.684	1.565	9,750	0.393	-0.311	0.239	0.871	1.850	***
ROA	10,012	0.008	-0.009	0.038	0.077	1.763	9,750	-0.072	-0.068	0.027	0.071	0.381	***
Sh_Turn	10,012	0.906	0.419	0.690	1.100	1.132	9,750	1.022	0.426	0.730	1.206	1.304	***
Ln_RFDLength	10,012	8.640	8.210	8.682	9.097	0.679	9,750	8.898	8.527	8.945	9.347	0.665	***
ZScore	10,012	16.147	1.716	3.170	5.152	670.308	9,750	3.816	1.344	3.140	5.265	13.398	*
Partitioning variables													

Negative Cash Flow from Operations	10,012	0.140	0.000	0.000	0.000	0.347	9,750	0.236	0.000	0.000	0.000	0.425	***
Low ROA	10,012	0.464	0.000	0.000	1.000	0.499	9,750	0.537	0.000	1.000	1.000	0.499	***
Fall in Earnings	10,012	0.422	0.000	0.000	1.000	0.494	9,750	0.438	0.000	0.000	1.000	0.496	**
High Short Interest	9,874	0.483	0.000	0.000	1.000	0.500	9,648	0.517	0.000	1.000	1.000	0.500	***
High Litigation Risk (Kim & Skinner)	10,012	0.482	0.000	0.000	1.000	0.500	9,750	0.519	0.000	1.000	1.000	0.500	***
Young Firm	10,012	0.476	0.000	0.000	1.000	0.499	9,750	0.580	0.000	1.000	1.000	0.494	***
Early Tenure CEO	6,150	0.526	0.000	1.000	1.000	0.499	5,332	0.471	0.000	0.000	1.000	0.499	***
Bid-ask spread													
Spread [0,5]	9,700	0.415	0.035	0.078	0.255	1.016	9,377	0.479	0.040	0.104	0.373	1.071	***
Spread [0,7]	9,700	0.413	0.035	0.078	0.255	1.011	9,377	0.474	0.040	0.102	0.373	1.036	***
Spread [-252, -2]	9,699	0.455	0.040	0.093	0.295	1.027	9,375	0.522	0.046	0.115	0.436	1.049	***
MD&A disclosure characteristics													
MD&A Avg_SentLength	9,678	40.324	36.716	39.699	43.154	8.775	9,384	40.820	37.251	40.165	43.228	10.994	***
MD&A Unique_Vocab	9,678	1,252.492	1,059.000	1,238.500	1,426.000	319.074	9,384	1,244.634	1,062.000	1,236.000	1,413.000	303.451	*
MD&A Type Token Ratio	9,546	0.052	0.040	0.050	0.060	0.021	9,275	0.052	0.040	0.050	0.060	0.020	*
Ln_MD&ALength	9,678	9.196	8.932	9.241	9.520	0.575	9,384	9.170	8.911	9.212	9.484	0.527	***
Alternate Litigation Risk Proxies													
Litigation Risk Kim & Skinner Measure	10,012	0.033	0.020	0.028	0.039	0.018	9,750	0.035	0.021	0.030	0.044	0.022	***
Lawsuit in Industry-year	10,012	0.800	1.000	1.000	1.000	0.400	9,750	0.846	1.000	1.000	1.000	0.361	***
Industry Demeaned Dependent Variables													
Avg_SentLength	10,012	-0.499	-2.887	-0.520	1.686	3.840	9,750	0.512	-1.921	0.365	2.629	5.719	***
Unique_Vocab	10,012	-72.607	-349.211	-91.311	186.865	400.895	9,750	74.558	-206.000	63.669	346.398	419.999	***
Type Token Ratio	10,012	0.007	-0.027	-0.000	0.032	0.050	9,750	-0.007	-0.038	-0.015	0.012	0.045	***

Notes: All variables are defined in Appendix A. This table provides descriptive statistics for all the variables used. The sample is partitioned by median of *Liberal court* values.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests).

TABLE 1.3: LITIGATION RISK AND RISK FACTOR DISCLOSURE COMPLEXITY

$$RFD\_complexity_{(i,t)} = \beta_0 + \beta_1 Liberal\_court_{(i,t)} + \sum_{k=2}^{18} \beta_k \, Controls_{(i,t)} + IndustryFE + YearFE + \varepsilon$$

VARIABLES	(1) Avg_ SentLength	(2) Avg_ SentLength	(3) Unique_Vocab	(4) Unique_Vocab	(5) Type Token Ratio	(6) Type Token Ratio
Liberal_Court	1.543***	1.359***	39.645***	36.710***	0.003***	0.003***
	[3.62]	[3.26]	[3.87]	[3.72]	[2.97]	[2.59]
Firm_Age	-0.004	-0.005	-0.482**	-0.897***	-0.000***	-0.000***
	[-0.65]	[-0.72]	[-2.58]	[-4.19]	[-2.99]	[-4.20]
Avg_Accruals	0.033	-0.018	3.899	0.863	0.001	0.000
	[0.76]	[-0.28]	[0.97]	[0.35]	[1.46]	[0.93]
BigN	0.072	0.150	4.607	13.168**	0.000	0.001**
	[0.44]	[0.92]	[0.79]	[2.08]	[0.77]	[1.98]
BTM	-0.046*	-0.026	1.071	1.723*	0.000	0.000
	[-1.77]	[-0.98]	[1.29]	[1.66]	[1.35]	[1.52]
Income	0.000	0.000	0.000	0.000	0.000	0.000
	[0.37]	[0.36]	[0.27]	[0.07]	[0.88]	[0.73]
Leverage	0.935***	0.856***	-2.373	-14.774*	0.001	-0.001
	[3.55]	[2.89]	[-0.31]	[-1.89]	[0.71]	[-1.42]
Size	0.352***	0.304***	6.384***	3.235**	0.001***	0.000
	[5.97]	[5.26]	[4.41]	[2.22]	[3.28]	[1.50]
Loss	0.453***	0.353***	22.872***	15.812***	0.002***	0.001***
	[3.63]	[2.96]	[5.21]	[4.36]	[4.47]	[3.77]
Abn_Return	-0.218	-0.491	42.344**	26.483	0.003*	0.002
	[-0.33]	[-0.76]	[2.10]	[1.41]	[1.75]	[0.91]
Stderet	18.827***	14.127***	576.902***	361.726***	0.053***	0.034**
	[4.95]	[3.73]	[4.06]	[2.76]	[3.65]	[2.53]
Beta	-0.383***	-0.345***	2.197	4.980	0.000	0.000
	[-3.59]	[-3.21]	[0.71]	[1.43]	[1.10]	[1.19]
Returns Skewness	-0.032*	-0.021	-2.112***	-1.188**	-0.000**	-0.000
	[-1.92]	[-1.20]	[-3.43]	[-2.08]	[-2.45]	[-1.07]
ROA	-0.097**	-0.033	-3.712	0.293	-0.000	0.000
	[-2.14]	[-0.51]	[-1.00]	[0.12]	[-1.02]	[0.12]
Sh_Turn	-0.047	-0.044	2.526	1.047	0.000	0.000
	[-1.17]	[-1.20]	[1.11]	[0.50]	[1.23]	[0.63]
Ln_RFDLength	2.626***	2.325***	630.224***	609.445***	-0.077***	-0.078***
	[10.64]	[7.43]	[51.87]	[45.21]	[-59.81]	[-53.78]
ZScore	0.000***	0.000***	-0.010*	-0.013***	-0.000***	-0.000***
	[12.41]	[5.90]	[-1.94]	[-5.01]	[-4.43]	[-9.34]
Lit_Risk KS	1.116	3.943	56.116	533.404***	-0.004	0.041***
	[0.43]	[1.39]	[0.68]	[5.04]	[-0.48]	[4.00]
Constant	7.719***	10.750***	-4,315.125***	-4,113.604***	0.820***	0.838***
	[3.75]	[4.06]	[-41.67]	[-35.09]	[74.61]	[65.52]
Observations	19,762	19,762	19,762	19,762	19,762	19,762
Adjusted R-squared	0.184	0.206	0.933	0.939	0.945	0.950
SIC2 FE	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests of risk factor disclosure complexity and litigation risk, run with and without fixed effects. Results in odd numbered columns are from regressions that do not incorporate fixed effects, while results in even numbered columns are from regressions that do. The dependent variable in columns (1) and (2) is the average sentence length of the risk factor disclosure, the dependent variable in columns (3) and (4) is the number of unique words from LM Master dictionary used in the disclosure, and the dependent variable in columns (5) and (6) is the Type Token Ratio of the risk factor disclosure. The main variable of interest is *Liberal_court,* which is a proxy for litigation risk based on judge ideology.

TABLE 1.4: LITIGATION RISK–RISK FACTOR DISCLOSURE COMPLEXITY ASSOCIATION FOR POOR PERFORMANCE FIRM-YEARS

$$RFD\_complexity_{i,t} = \beta_0 + \beta_1 Liberal\_court_{i,t} * Poor\ Performance_{i,t} + \beta_2 Poor\ Performance_{i,t} + \beta_3 Liberal\_court_{i,t} + \sum_{k=4}^{20} \beta_k\ Controls_{i,t} + IndustryFE + YearFE + \varepsilon$$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Poor Performance = Negative Cash Flow from Operations			Poor Performance = Low ROA			Poor Performance = Fall in Earnings		
VARIABLES	Avg_Sent Length	Unique_Vocab	Type Token Ratio	Avg_Sent Length	Unique_Vocab	Type Token Ratio	Avg_Sent Length	Unique_Vocab	Type Token Ratio
Liberal Court * Poor Performance	-0.060	69.336***	0.004**	0.020	66.444***	0.005***	0.130	13.430**	0.001*
	[-0.11]	[3.58]	[2.40]	[0.04]	[5.15]	[3.28]	[0.45]	[2.12]	[1.78]
Poor Performance	0.221	-27.827***	-0.002**	0.133	-19.504***	-0.001	-0.026	-2.913	-0.000
	[0.85]	[-2.90]	[-2.33]	[0.51]	[-3.16]	[-1.28]	[-0.23]	[-0.97]	[-0.42]
Liberal_Court	1.356***	24.616**	0.002*	1.349**	4.678	0.000	1.305***	31.064***	0.002**
	[2.90]	[2.41]	[1.76]	[2.23]	[0.43]	[0.32]	[2.80]	[3.06]	[2.03]
Lit_Risk KS	3.952	541.371***	0.041***	3.804	529.282***	0.040***	3.903	529.563***	0.041***
	[1.40]	[5.13]	[4.05]	[1.35]	[5.07]	[3.98]	[1.38]	[5.00]	[3.94]
Firm_Age	-0.004	-0.895***	-0.000***	-0.005	-0.892***	-0.000***	-0.005	-0.899***	-0.000***
	[-0.69]	[-4.18]	[-4.22]	[-0.73]	[-4.16]	[-4.20]	[-0.72]	[-4.20]	[-4.22]
Avg_Accruals	-0.029	0.012	0.000	-0.022	0.167	0.000	-0.020	0.630	0.000
	[-0.43]	[0.01]	[0.88]	[-0.33]	[0.08]	[0.74]	[-0.31]	[0.27]	[0.84]
BigN	0.153	13.479**	0.001**	0.144	12.641**	0.001*	0.150	13.155**	0.001**
	[0.93]	[2.13]	[2.00]	[0.88]	[2.02]	[1.92]	[0.91]	[2.08]	[1.98]
BTM	-0.025	1.832*	0.000	-0.029	1.713*	0.000	-0.026	1.699*	0.000
	[-0.92]	[1.67]	[1.54]	[-1.13]	[1.66]	[1.50]	[-0.99]	[1.66]	[1.52]
Income	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[0.33]	[0.05]	[0.75]	[0.37]	[0.24]	[0.83]	[0.36]	[0.10]	[0.76]
Leverage	0.871***	-14.305*	-0.001	0.838***	-15.126*	-0.001	0.856***	-14.761*	-0.001
	[2.94]	[-1.83]	[-1.43]	[2.83]	[-1.93]	[-1.52]	[2.89]	[-1.89]	[-1.41]
Size	0.309***	3.321**	0.000	0.309***	3.558**	0.000*	0.304***	3.229**	0.000
	[5.29]	[2.26]	[1.45]	[5.34]	[2.46]	[1.74]	[5.25]	[2.22]	[1.50]
Loss	0.299***	13.995***	0.001***	0.264**	8.838**	0.001	0.343***	14.896***	0.001***
	[2.64]	[4.01]	[3.95]	[2.14]	[2.50]	[1.57]	[2.72]	[3.94]	[3.30]

Abn_Return	-0.462	26.723	0.001	-0.473	27.211	0.002	-0.484	27.212	0.002
	[-0.72]	[1.42]	[0.88]	[-0.73]	[1.44]	[0.97]	[-0.74]	[1.45]	[0.96]
Stderet	13.462***	343.282***	0.034**	14.057***	372.002***	0.034***	14.169***	365.702***	0.034***
	[3.52]	[2.65]	[2.58]	[3.71]	[2.85]	[2.58]	[3.76]	[2.80]	[2.58]
Beta	-0.344***	4.654	0.000	-0.349***	4.701	0.000	-0.344***	5.014	0.000
	[-3.21]	[1.35]	[1.13]	[-3.24]	[1.35]	[1.10]	[-3.21]	[1.44]	[1.20]
Returns Skewness	-0.020	-1.175**	-0.000	-0.020	-1.182**	-0.000	-0.020	-1.128**	-0.000
	[-1.15]	[-2.06]	[-1.09]	[-1.16]	[-2.08]	[-1.04]	[-1.14]	[-1.97]	[-0.92]
ROA	-0.017	1.315	0.000	-0.027	1.208	0.000	-0.030	0.559	0.000
	[-0.25]	[0.64]	[0.26]	[-0.42]	[0.57]	[0.52]	[-0.46]	[0.24]	[0.26]
Sh_Turn	-0.044	1.029	0.000	-0.043	1.034	0.000	-0.044	1.036	0.000
	[-1.19]	[0.49]	[0.62]	[-1.17]	[0.49]	[0.64]	[-1.20]	[0.49]	[0.62]
Ln_RFDLength	2.319***	609.390***	-0.078***	2.316***	609.122***	-0.078***	2.325***	609.453***	-0.078***
	[7.41]	[45.17]	[-53.73]	[7.37]	[44.98]	[-53.51]	[7.43]	[45.20]	[-53.78]
ZScore	0.000***	-0.013***	-0.000***	0.000***	-0.013***	-0.000***	0.000***	-0.013***	-0.000***
	[5.14]	[-6.45]	[-9.93]	[5.69]	[-6.55]	[-12.16]	[5.87]	[-5.21]	[-9.79]
Constant	10.765***	-4,108.977***	0.838***	10.776***	-4,101.621***	0.839***	10.764***	-4,112.116***	0.838***
	[4.08]	[-35.05]	[65.56]	[4.12]	[-34.92]	[65.58]	[4.09]	[-35.01]	[65.45]
Observations	19,762	19,762	19,762	19,762	19,762	19,762	19,762	19,762	19,762
Adjusted R-squared	0.207	0.940	0.950	0.207	0.940	0.950	0.206	0.939	0.950
SIC2 FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests from Table 3 to observe the variation between firm-years that exhibit poor firm performance, and those that do not. Columns (1) to (3) use negative cash flow from operations as an indicator of poor performance, columns (4) to (6) use below median return on assets as a proxy for poor performance, and columns (7) to (9) use a decrease in income before extraordinary items as an indicator of poor performance. The dependent variable in columns (1), (4) & (7) is the average sentence length of the risk factor disclosure, the dependent variable in columns (2), (5) and (8) is the number of unique words from LM Master dictionary used in the disclosure, and the dependent variable in columns (3), (6) and (9) is the Type Token Ratio of the risk factor disclosure. The main variable of interest is *Liberal Court * Poor Performance* which is an interaction of *Liberal court*, our measure of litigation risk, and *Poor Performance*, an indicator variable that takes value 1 for negative cash flow from operations (Columns (1) to (3)), below median return on assets (Columns (4) to (6)), and decrease in income before extraordinary items (Columns (7) to (9)). All tests include industry fixed effects and year fixed effects.

TABLE 1.5: LITIGATION RISK–RISK FACTOR DISCLOSURE COMPLEXITY ASSOCIATION FOR OTHER BAD NEWS FIRM-YEARS

$$RFD\_complexity_{i,t} = \beta_0 + \beta_1 Liberal\_court_{i,t} * Bad\ News_{i,t} + \beta_2 Bad\ News_{i,t} + \beta_3 Liberal\_court_{i,t} + \sum_{k=4}^{20} \beta_k\ Controls_{i,t} + IndustryFE + YearFE + \varepsilon$$

	(1)	(2)	(3)	(4)	(5)	(6)
	Bad News = High Short Interest			Bad News = High Litigation Risk (Kim & Skinner)		
VARIABLES	Avg_Sent Length	Unique_Vocab	Type Token Ratio	Avg_Sent Length	Unique_Vocab	Type Token Ratio
Liberal Court * Bad News	0.373	50.447***	0.003**	0.508	78.229***	0.007***
	[0.63]	[3.62]	[2.31]	[0.82]	[5.26]	[4.05]
Bad News	-0.265	-15.517**	-0.001*	-0.056	-24.665***	-0.003***
	[-1.06]	[-2.55]	[-1.66]	[-0.19]	[-3.44]	[-3.26]
Liberal_Court	1.197**	13.451	0.001	1.119**	-0.755	-0.001
	[2.12]	[1.09]	[0.82]	[2.05]	[-0.06]	[-0.53]
Lit_Risk KS	4.358	543.530***	0.042***	1.625	379.436***	0.034***
	[1.52]	[5.10]	[4.06]	[0.54]	[3.68]	[3.42]
Firm_Age	-0.005	-0.879***	-0.000***	-0.005	-0.884***	-0.000***
	[-0.83]	[-4.09]	[-4.20]	[-0.72]	[-4.14]	[-4.15]
Avg_Accruals	-0.009	0.814	0.000	-0.018	0.892	0.000
	[-0.15]	[0.33]	[0.93]	[-0.29]	[0.36]	[0.95]
BigN	0.142	13.825**	0.001**	0.146	12.676**	0.001*
	[0.86]	[2.18]	[2.07]	[0.89]	[2.02]	[1.94]
BTM	-0.045*	1.483	0.000	-0.028	1.647	0.000
	[-1.89]	[1.53]	[1.37]	[-1.05]	[1.64]	[1.52]
Income	0.000	0.000	0.000	0.000	0.000	0.000
	[0.32]	[0.25]	[0.77]	[0.38]	[0.08]	[0.71]
Leverage	0.808***	-13.118*	-0.001	0.863***	-13.711*	-0.001
	[2.69]	[-1.66]	[-1.19]	[2.92]	[-1.77]	[-1.30]
Size	0.309***	2.858*	0.000	0.296***	2.843*	0.000
	[5.34]	[1.93]	[1.37]	[5.24]	[1.95]	[1.46]
Loss	0.347***	15.214***	0.001***	0.348***	15.567***	0.001***
	[2.95]	[4.21]	[3.69]	[2.92]	[4.32]	[3.79]
Abn_Return	-0.313	24.004	0.001	-0.505	24.285	0.001
	[-0.49]	[1.28]	[0.83]	[-0.78]	[1.30]	[0.80]
Stderet	14.399***	385.334***	0.036***	13.876***	349.388***	0.034**
	[3.75]	[2.87]	[2.63]	[3.66]	[2.68]	[2.52]
Beta	-0.332***	4.420	0.000	-0.353***	4.117	0.000
	[-3.16]	[1.26]	[1.14]	[-3.33]	[1.19]	[1.01]
Returns Skewness	-0.022	-1.121**	-0.000	-0.020	-1.128**	-0.000
	[-1.29]	[-1.96]	[-1.04]	[-1.14]	[-1.99]	[-1.03]
ROA	-0.041	0.401	0.000	-0.032	0.252	0.000
	[-0.66]	[0.17]	[0.14]	[-0.50]	[0.10]	[0.08]
Sh_Turn	-0.044	0.446	0.000	-0.044	1.129	0.000
	[-1.26]	[0.21]	[0.48]	[-1.19]	[0.54]	[0.66]
Ln_RFDLength	2.317***	607.427***	-0.079***	2.318***	609.114***	-0.078***
	[7.28]	[44.78]	[-53.50]	[7.33]	[45.25]	[-53.90]
ZScore	0.000***	-0.013***	-0.000***	0.000***	-0.013***	-0.000***
	[5.88]	[-5.39]	[-9.87]	[5.95]	[-4.87]	[-9.04]
Constant	10.904***	-4,087.498***	0.840***	10.985***	-4,090.398***	0.840***
	[4.04]	[-34.48]	[64.60]	[4.05]	[-34.56]	[64.83]

Observations	19,522	19,522	19,522	19,762	19,762	19,762
Adjusted R-squared	0.205	0.940	0.950	0.207	0.940	0.950
SIC2 FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests from Table 3 to observe the variation between firm-years that had some kind of bad news which could be associated with higher likelihood of shareholder lawsuits and those that did not. Columns (1) to (3) use average short interest as a proxy for bad news that makes a firm prone to shareholder lawsuits, and columns (4) to (6) use litigation risk measure created by Kim & Skinner (2012) as a proxy for bad news. The dependent variable in columns (1) and (4) is the average sentence length of the risk factor disclosure, the dependent variable in columns (2) and (5) is the number of unique words from LM Master dictionary used in the disclosure, and the dependent variable in columns (3) and (6) is the Type Token Ratio of the risk factor disclosure. The main variable of interest is *Liberal Court* * *Bad News* which is an interaction of *Liberal court*, our measure of litigation risk, and *Bad News*, an indicator variable that takes value 1 for above median average short interest (Columns (1) to (3)), and above median values of Kim & Skinner's litigation risk (Columns (4) to (6)). All tests include industry fixed effects and year fixed effects.

TABLE 1.6: LITIGATION RISK–RISK FACTOR DISCLOSURE COMPLEXITY ASSOCIATION FOR EARLY-STAGE FIRMS AND CEOS

$$RFD\_complexity_{i,t} = \beta_0 + \beta_1 Liberal\_court_{i,t} * Early\ Stage_{i,t} + \beta_2 Early\ Stage_{i,t} + \beta_3 Liberal\_court_{i,t} + \sum_{k=4}^{20} \beta_k\ Controls_{i,t} + IndustryFE + YearFE + \varepsilon$$

	(1)	(2)	(3)	(4)	(5)	(6)
	Early Stage = Young Firm			Early Stage = Early Tenure CEO		
VARIABLES	Avg_Sent Length	Unique_Vocab	Type Token Ratio	Avg_Sent Length	Unique_Vocab	Type Token Ratio
Liberal Court * Early Stage	0.437	72.908***	0.006***	0.195	-8.244	-0.002
	[0.76]	[4.88]	[3.38]	[0.27]	[-0.49]	[-0.85]
Early Stage	0.025	-26.042***	-0.002**	-0.180	-1.480	0.000
	[0.09]	[-3.22]	[-2.43]	[-0.58]	[-0.19]	[0.13]
Liberal_Court	1.141**	0.572	-0.000	1.202**	25.648*	0.002
	[2.22]	[0.05]	[-0.09]	[2.12]	[1.82]	[0.97]
Lit_Risk KS	3.940	525.569***	0.040***	0.501	312.522***	0.025**
	[1.40]	[4.97]	[3.93]	[0.13]	[3.27]	[2.38]
Firm_Age	-0.000	-0.817***	-0.000***	0.001	-0.435***	-0.000***
	[-0.04]	[-4.01]	[-4.14]	[0.10]	[-2.89]	[-3.05]
Avg_Accruals	-0.023	0.414	0.000	0.653	-11.161	-0.002
	[-0.35]	[0.18]	[0.84]	[0.57]	[-0.64]	[-1.30]
BigN	0.139	12.243**	0.001*	0.451*	-10.999	-0.001
	[0.86]	[1.96]	[1.92]	[1.82]	[-1.44]	[-0.86]
BTM	-0.026	1.781*	0.000	-0.175	-1.455	-0.000
	[-0.97]	[1.67]	[1.53]	[-1.30]	[-0.56]	[-0.97]
Income	0.000	0.000	0.000	-0.000	0.000	0.000
	[0.37]	[0.19]	[0.80]	[-0.39]	[0.19]	[0.77]
Leverage	0.865***	-12.913	-0.001	0.404	-21.338**	-0.002*
	[2.92]	[-1.64]	[-1.21]	[1.05]	[-2.43]	[-1.95]
Size	0.303***	3.283**	0.000	0.495***	6.306***	0.000**
	[5.26]	[2.27]	[1.54]	[5.85]	[3.48]	[2.08]
Loss	0.344***	14.873***	0.001***	0.526***	7.974*	0.001
	[2.91]	[4.13]	[3.61]	[3.10]	[1.68]	[1.17]
Abn_Return	-0.494	27.068	0.002	-1.095	1.530	-0.001
	[-0.77]	[1.44]	[0.94]	[-0.83]	[0.07]	[-0.36]
Stderet	13.894***	344.364***	0.033**	29.342***	1.119	0.002
	[3.70]	[2.66]	[2.47]	[3.75]	[0.01]	[0.13]
Beta	-0.344***	4.787	0.000	-0.265*	1.662	-0.000
	[-3.21]	[1.39]	[1.14]	[-1.80]	[0.42]	[-0.11]
Returns Skewness	-0.020	-1.121**	-0.000	-0.023	0.392	0.000
	[-1.16]	[-1.97]	[-0.99]	[-1.11]	[0.68]	[0.76]
ROA	-0.027	0.734	0.000	0.716	-37.309	-0.004*
	[-0.41]	[0.32]	[0.26]	[0.64]	[-1.50]	[-1.82]
Sh_Turn	-0.046	0.891	0.000	-0.075	-0.615	-0.000
	[-1.25]	[0.43]	[0.60]	[-0.77]	[-0.26]	[-0.40]
Ln_RFDLength	2.308***	608.531***	-0.078***	2.624***	630.303***	-0.076***
	[7.23]	[44.75]	[-53.38]	[5.40]	[74.80]	[-86.70]
ZScore	0.000***	-0.012***	-0.000***	-0.014	0.097	-0.000
	[5.89]	[-5.15]	[-9.64]	[-1.32]	[0.41]	[-0.08]
Constant	10.793***	-4,094.595***	0.840***	6.061	-4,286.541***	0.820***

	[4.04]	[-35.07]	[65.51]	[1.54]	[-57.81]	[104.33]
Observations	19,762	19,762	19,762	11,482	11,482	11,482
Adjusted R-squared	0.207	0.940	0.950	0.158	0.949	0.954
SIC2 FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests from Table 3 to observe the variation between firm-years that represent firms/CEOs in their early stages and those that do not. Columns (1) to (3) run tests for firms that are younger in age, and columns (4) to (6) run tests for firms that have CEOs who are in their earlier years of their role. The dependent variable in columns (1) and (4) is the average sentence length of the risk factor disclosure, the dependent variable in columns (2) and (5) is the number of unique words from LM Master dictionary used in the disclosure, and the dependent variable in columns (3) and (6) is the Type Token Ratio of the risk factor disclosure. The main variable of interest is *Liberal Court * Early Stage* which is an interaction of *Liberal court*, our measure of litigation risk, and *Early Stage*, an indicator variable that takes value 1 for below median values of Firm Age (Columns (1) to (3)) and below median values of CEO Tenure (Columns (4) to (6)). All tests include industry fixed effects and year fixed effects.

TABLE 1.7: STOCK PRICE SPREADS AND RISK FACTOR DISCLOSURE COMPLEXITY

$$Bid\_ask\_spread_{i,t} = \beta_0 + \beta_1 RFD\_complexity_{i,t} + \sum_{k=2}^{19} \beta_k \, Controls_{i,t} + IndustryFE + YearFE + \varepsilon$$

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Spread [0,5]			Spread [0,7]		
Avg_SentLength	0.0008			0.0011		
	[0.89]			[1.08]		
Unique_Vocab		0.0001**			0.0001**	
		[2.03]			[2.54]	
Type Token Ratio			1.0200**			1.1886***
			[2.27]			[2.99]
Spread [-252,-2]	0.8308***	0.8303***	0.8304***	0.8155***	0.8149***	0.8151***
	[24.61]	[24.70]	[24.69]	[25.40]	[25.52]	[25.54]
Firm_Age	0.0004	0.0005*	0.0005**	0.0003	0.0004*	0.0004*
	[1.60]	[1.94]	[1.99]	[1.24]	[1.65]	[1.71]
Avg_Accruals	0.0190	0.0182	0.0183	0.0193	0.0185	0.0185
	[0.94]	[0.91]	[0.91]	[0.98]	[0.94]	[0.94]
BigN	-0.0414***	-0.0424***	-0.0426***	-0.0412***	-0.0423***	-0.0425***
	[-3.16]	[-3.25]	[-3.26]	[-3.21]	[-3.33]	[-3.34]
BTM	0.0106	0.0103	0.0103	0.0088	0.0084	0.0083
	[1.23]	[1.19]	[1.18]	[1.00]	[0.95]	[0.94]
Income	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***
	[2.98]	[3.00]	[2.97]	[3.32]	[3.34]	[3.31]
Leverage	0.0197	0.0219	0.0216	0.0260	0.0287	0.0283
	[1.07]	[1.21]	[1.18]	[1.44]	[1.62]	[1.58]
Size	-0.0427***	-0.0429***	-0.0429***	-0.0452***	-0.0453***	-0.0453***
	[-5.46]	[-5.57]	[-5.55]	[-6.16]	[-6.30]	[-6.29]
Loss	0.0473***	0.0461***	0.0462***	0.0511***	0.0498***	0.0499***
	[3.64]	[3.55]	[3.57]	[4.04]	[3.94]	[3.96]
Abn_Return	-0.1627	-0.1650	-0.1644	-0.1746	-0.1773	-0.1767
	[-1.14]	[-1.16]	[-1.16]	[-1.31]	[-1.33]	[-1.33]
Stderet	-3.8014***	-3.8038***	-3.8106***	-3.9475***	-3.9489***	-3.9568***
	[-4.65]	[-4.65]	[-4.66]	[-4.96]	[-4.97]	[-4.98]
Beta	-1.0426	-1.1536	-1.1400	-1.6083	-1.7404	-1.7253
	[-0.53]	[-0.59]	[-0.58]	[-0.85]	[-0.92]	[-0.92]
Returns Skewness	-0.0041	-0.0040	-0.0041	-0.0041	-0.0040	-0.0041
	[-1.40]	[-1.38]	[-1.40]	[-1.46]	[-1.44]	[-1.46]
ROA	-0.0176	-0.0170	-0.0171	-0.0180	-0.0174	-0.0175
	[-0.91]	[-0.89]	[-0.89]	[-0.96]	[-0.93]	[-0.93]
Sh_Turn	-0.0093*	-0.0096*	-0.0096*	-0.0079*	-0.0082*	-0.0083*
	[-1.81]	[-1.87]	[-1.88]	[-1.65]	[-1.72]	[-1.73]
Ln_RFDLength	-0.0256**	-0.0803**	0.0564*	-0.0317***	-0.0946***	0.0643**
	[-2.45]	[-2.39]	[1.76]	[-3.08]	[-3.02]	[2.25]
ZScore	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
	[-0.80]	[-0.51]	[-0.40]	[-0.84]	[-0.49]	[-0.36]
Lit_Risk KS	1.2288***	1.1817***	1.1905***	1.2313***	1.1775***	1.1873***
	[5.53]	[5.37]	[5.40]	[5.70]	[5.52]	[5.53]
Constant	0.6003***	0.9895***	-0.2481	0.6714***	1.1241***	-0.3155
	[5.02]	[3.95]	[-0.70]	[5.94]	[4.82]	[-0.99]
Observations	18,443	18,443	18,443	18,443	18,443	18,443
Adjusted R-squared	0.7361	0.7362	0.7363	0.7443	0.7444	0.7444

SIC2 FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the regressions of average stock price spreads on risk factor disclosure complexity. The dependent variable in the table is stock price spread for relative to 10-K filing date. The period for which average stock price spread is calculated is [0,5] and [0,7] days relative to 10-K filing date in columns (1) to (3) and columns (4) to (6) respectively. The main variable of interest in columns (1), and (4) is the average sentence length of the risk factor disclosure, while in columns (2) and (5) is the number of unique words from LM Master dictionary used in the disclosure, and in columns (3) and (6) is the Type Token Ratio of the risk factor disclosure. All tests include industry fixed effects and year fixed effects.

TABLE 1.8: PLACEBO – STOCK PRICE SPREADS AND MD&A COMPLEXITY

$$Spread_{i,t} = \beta_0 + \beta_1 MD\&A\_complexity_{i,t} + \sum_{k=2}^{18} \beta_k Controls_{i,t} + IndustryFE + YearFE + \varepsilon$$

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Spread [0,5]			Spread [0,7]		
MD&A Avg_SentLength	0.0002			0.0001		
	[0.54]			[0.51]		
MD&A Unique_Vocab		0.0000			0.0000	
		[1.36]			[1.45]	
MD&A Type Token Ratio			0.4969			0.3681
			[1.18]			[0.94]
Spread [-252,-2]	0.8368***	0.8367***	0.8364***	0.8216***	0.8215***	0.8214***
	[24.18]	[24.16]	[24.02]	[24.88]	[24.85]	[24.72]
Firm_Age	0.0006**	0.0006**	0.0006***	0.0006***	0.0006**	0.0006***
	[2.55]	[2.47]	[2.61]	[2.59]	[2.50]	[2.69]
Avg_Accruals	0.0269	0.0265	0.0254	0.0274	0.0269	0.0259
	[1.22]	[1.20]	[1.15]	[1.27]	[1.25]	[1.19]
BigN	-0.0387***	-0.0384***	-0.0383***	-0.0384***	-0.0381***	-0.0377***
	[-2.91]	[-2.88]	[-2.90]	[-2.97]	[-2.95]	[-2.93]
BTM	0.0120	0.0118	0.0113	0.0100	0.0097	0.0089
	[1.35]	[1.32]	[1.11]	[1.09]	[1.07]	[0.86]
Income	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***
	[3.03]	[3.01]	[3.03]	[3.38]	[3.38]	[3.40]
Leverage	0.0214	0.0216	0.0131	0.0280	0.0281	0.0207
	[1.13]	[1.14]	[0.65]	[1.51]	[1.52]	[1.06]
Size	-0.0424***	-0.0427***	-0.0430***	-0.0448***	-0.0451***	-0.0454***
	[-5.36]	[-5.37]	[-5.39]	[-6.09]	[-6.09]	[-6.09]
Loss	0.0411***	0.0407***	0.0414***	0.0441***	0.0437***	0.0445***
	[3.03]	[3.00]	[2.98]	[3.33]	[3.30]	[3.28]
Abn_Return	-0.1154	-0.1144	-0.1230	-0.1290	-0.1280	-0.1349
	[-0.79]	[-0.79]	[-0.84]	[-0.95]	[-0.94]	[-0.99]
Stderet	-4.2498***	-4.2493***	-4.2285***	-4.3822***	-4.3820***	-4.3559***
	[-5.00]	[-5.00]	[-4.93]	[-5.25]	[-5.25]	[-5.18]
Beta	-1.0835	-1.0181	-1.2326	-1.7611	-1.6962	-1.9374
	[-0.55]	[-0.52]	[-0.62]	[-0.92]	[-0.89]	[-1.01]
Returns Skewness	-0.0036	-0.0037	-0.0037	-0.0036	-0.0036	-0.0037
	[-1.24]	[-1.24]	[-1.23]	[-1.26]	[-1.26]	[-1.28]
ROA	-0.0249	-0.0244	-0.0237	-0.0255	-0.0251	-0.0242
	[-1.18]	[-1.16]	[-1.11]	[-1.24]	[-1.22]	[-1.17]
Sh_Turn	-0.0065	-0.0065	-0.0066	-0.0053	-0.0054	-0.0055
	[-1.22]	[-1.23]	[-1.24]	[-1.06]	[-1.07]	[-1.09]
Ln_RFDLength	-0.0236***	-0.0403**	-0.0069	-0.0226***	-0.0394***	-0.0104
	[-2.60]	[-2.57]	[-0.48]	[-2.60]	[-2.61]	[-0.77]
ZScore	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
	[-1.30]	[-1.27]	[-1.09]	[-1.29]	[-1.25]	[-1.10]
Lit_Risk KS	1.1277***	1.1137***	1.1493***	1.0970***	1.0827***	1.1227***
	[5.27]	[5.19]	[5.32]	[5.28]	[5.22]	[5.35]
Constant	0.6129***	0.7331***	0.4461**	0.6327***	0.7525***	0.5122***
	[5.16]	[4.81]	[2.45]	[5.42]	[5.03]	[3.06]

Observations	17,807	17,807	17,572	17,807	17,807	17,572
Adjusted R-squared	0.7366	0.7366	0.7365	0.7440	0.7440	0.7438
SIC2 FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of a placebo test. I run the same regressions as in Table 7, but instead of using characteristics of risk factor disclosures, I change the dependent variables to the same characteristics of the Management Discussion and Analysis (MD&A) disclosure. The dependent variable in the table is stock price spread for relative to 10-K filing date. The period for which average stock price spread is calculated is [0,5] and [0,7] days relative to 10-K filing date in columns (1) to (3) and columns (4) to (6) respectively. The main variable of interest in columns (1) and (4) is the average sentence length of the MD&A, while in columns (2) and (5) is the number of unique words from LM Master dictionary used in the MD&A, and in columns (3) and (6) is the Type Token Ratio of the MD&A. All tests include industry fixed effects and year fixed effects.

TABLE 1.9: ALTERNATE LITIGATION RISK PROXIES

$$RFD\_complexity_{(i,t)} = \beta_0 + \beta_1 Litigation\_risk_{(i,t)} + \sum_{k=2}^{17} \beta_k \, Controls_{(i,t)} + IndustryFE + YearFE + \varepsilon$$

	(1)	(2)	(3)	(4)	(5)	(6)
	Litigation Risk = Kim & Skinner Measure			Litigation Risk = Lawsuit in Industry-year		
VARIABLES	Avg_Sent Length	Unique_Vocab	Type Token Ratio	Avg_Sent Length	Unique_Vocab	Type Token Ratio
Litigation Risk	4.882*	558.761***	0.043***	-0.105	17.601***	0.001***
	[1.68]	[5.19]	[4.13]	[-0.71]	[5.20]	[3.69]
Firm_Age	-0.005	-0.915***	-0.000***	0.006	-0.537***	-0.000***
	[-0.81]	[-4.22]	[-4.24]	[0.75]	[-3.77]	[-4.12]
Avg_Accruals	-0.007	1.138	0.000	0.366*	-3.047	-0.000
	[-0.13]	[0.43]	[0.98]	[1.94]	[-1.10]	[-0.61]
BigN	0.114	12.182*	0.001*	-0.015	0.646	0.001
	[0.69]	[1.94]	[1.89]	[-0.08]	[0.11]	[0.89]
BTM	-0.032	1.561	0.000	-0.013	3.092*	0.000*
	[-1.27]	[1.62]	[1.49]	[-0.35]	[1.80]	[1.74]
Income	0.000	0.000	0.000	0.000	0.000	0.000
	[0.46]	[0.22]	[0.80]	[1.14]	[0.24]	[0.68]
Leverage	0.779***	-16.871**	-0.001	0.955**	0.825	0.000
	[2.60]	[-2.18]	[-1.63]	[2.47]	[0.08]	[0.28]
Size	0.303***	3.215**	0.000	0.289***	6.752***	0.001***
	[5.25]	[2.21]	[1.49]	[4.62]	[4.26]	[3.30]
Loss	0.384***	16.650***	0.001***	0.293**	14.814***	0.001***
	[3.27]	[4.52]	[3.90]	[2.10]	[3.06]	[2.90]
Abn_Return	-0.449	27.621	0.002	-0.099	76.008***	0.005**
	[-0.70]	[1.47]	[0.96]	[-0.12]	[3.33]	[2.31]
Stderet	14.242***	364.821***	0.034**	7.904*	135.137	0.025**
	[3.75]	[2.76]	[2.53]	[1.92]	[1.16]	[2.22]
Beta	-0.358***	4.627	0.000	-0.195	0.425	0.000
	[-3.30]	[1.32]	[1.11]	[-1.54]	[0.12]	[0.36]
Returns Skewness	-0.018	-1.116**	-0.000	-0.030	-1.530**	-0.000*
	[-1.03]	[-1.97]	[-0.98]	[-1.45]	[-2.10]	[-1.94]
ROA	-0.042	0.031	0.000	-0.340**	4.710*	0.000
	[-0.72]	[0.01]	[0.03]	[-2.06]	[1.76]	[1.54]
Sh_Turn	-0.041	1.135	0.000	-0.077*	5.759**	0.000*
	[-1.11]	[0.54]	[0.65]	[-1.70]	[2.13]	[1.65]
Ln_RFDLength	2.407***	611.658***	-0.078***	2.815***	650.660***	-0.075***
	[8.00]	[45.90]	[-54.20]	[10.05]	[79.14]	[-83.04]
ZScore	0.000***	-0.013***	-0.000***	0.000	-0.013***	-0.000***
	[5.93]	[-4.94]	[-9.17]	[0.62]	[-6.37]	[-9.10]
Constant	10.658***	-4,116.094***	0.838***	7.109***	-4,480.634***	0.806***
	[4.03]	[-35.00]	[65.42]	[2.84]	[-61.69]	[99.31]
Observations	19,762	19,762	19,762	19,762	19,762	19,762
Adjusted R-squared	0.204	0.939	0.950	0.237	0.947	0.950
SIC2 FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests of risk factor disclosure complexity and litigation risk from Table 3, run with alternate litigation risk proxies. The independent variable of interest in Columns (1) to (3) is the litigation risk proxy from Kim & Skinner (2012), while the independent variable of interest in Columns (4) to (6) is a dummy for whether a firm faced a lawsuit in the same Fama-French 49 industry in that year. The dependent variable in columns (1), and (4) is the average sentence length of the risk factor disclosure, while in columns (2) and (5) is the number of unique words from LM Master dictionary used in the disclosure, and in columns (3) and (6) is the Type Token Ratio of the risk factor disclosure. All tests include industry fixed effects and year fixed effects.

TABLE 1.10: ROBUSTNESS TESTS – USING STATE FIXED EFFECTS

$$RFD\_complexity_{(i,t)} = \beta_0 + \beta_1 Liberal\_court_{(i,t)} + \sum_{k=2}^{18} \beta_k Controls_{(i,t)} + FE + \varepsilon$$

VARIABLES	(1) Avg_ SentLength	(2) Unique_Vocab	(3) Type Token Ratio	(4) Avg_ SentLength	(5) Unique_Vocab	(6) Type Token Ratio
Liberal_Court	2.117***	173.499***	0.012***	1.984**	160.721***	0.011***
	[2.66]	[8.20]	[5.88]	[2.57]	[7.77]	[5.29]
Firm_Age	-0.005	-0.684***	-0.000***	-0.003	-0.836***	-0.000***
	[-0.91]	[-3.42]	[-3.72]	[-0.41]	[-3.90]	[-3.95]
Avg_Accruals	0.032	3.701	0.000	-0.010	0.825	0.000
	[0.76]	[0.98]	[1.44]	[-0.18]	[0.36]	[0.98]
BigN	0.238	11.577*	0.001**	0.203	11.228*	0.001*
	[1.43]	[1.92]	[1.99]	[1.26]	[1.83]	[1.87]
BTM	-0.043*	2.135**	0.000*	-0.024	2.119*	0.000
	[-1.75]	[2.00]	[1.96]	[-0.90]	[1.73]	[1.61]
Income	0.000	0.000	0.000	0.000	0.000	0.000
	[0.31]	[0.21]	[0.80]	[0.31]	[0.05]	[0.66]
Leverage	0.813***	-5.058	0.000	0.881***	-9.914	-0.001
	[2.75]	[-0.70]	[0.07]	[2.86]	[-1.29]	[-0.90]
Size	0.326***	4.933***	0.000**	0.300***	3.161**	0.000
	[5.70]	[3.41]	[2.52]	[5.18]	[2.19]	[1.60]
Loss	0.386***	19.108***	0.002***	0.325***	14.216***	0.001***
	[3.15]	[4.70]	[4.00]	[2.82]	[4.01]	[3.52]
Abn_Return	-0.442	31.151	0.002	-0.612	22.549	0.001
	[-0.66]	[1.60]	[1.32]	[-0.93]	[1.22]	[0.79]
Stderet	19.105***	565.919***	0.055***	13.835***	336.083***	0.032**
	[5.11]	[4.07]	[3.73]	[3.66]	[2.76]	[2.56]
Beta	-0.295***	6.030*	0.001*	-0.335***	4.356	0.000
	[-2.72]	[1.95]	[1.95]	[-3.05]	[1.27]	[1.06]
Returns Skewness	-0.023	-1.361**	-0.000	-0.023	-1.115**	-0.000
	[-1.49]	[-2.35]	[-1.36]	[-1.34]	[-2.02]	[-1.03]
ROA	-0.091**	-3.368	-0.000	-0.041	0.305	0.000
	[-2.05]	[-0.97]	[-0.93]	[-0.69]	[0.13]	[0.04]
Sh_Turn	-0.063*	1.218	0.000	-0.045	1.125	0.000
	[-1.65]	[0.58]	[0.83]	[-1.23]	[0.55]	[0.65]
Ln_RFDLength	2.375***	614.057***	-0.078***	2.307***	608.397***	-0.078***
	[8.29]	[47.19]	[-55.66]	[7.21]	[45.11]	[-53.12]
ZScore	0.000***	-0.011**	-0.000***	0.000***	-0.013***	-0.000***
	[10.28]	[-2.38]	[-5.14]	[6.10]	[-4.96]	[-8.60]
Lit_Risk KS	3.939	185.807**	0.011	3.499	489.426***	0.037***
	[1.47]	[2.19]	[1.27]	[1.30]	[4.85]	[3.72]
Constant	9.624***	-4,228.237***	0.830***	10.594***	-4,156.221***	0.836***
	[4.02]	[-37.57]	[68.15]	[3.95]	[-35.13]	[63.95]
Observations	19,762	19,762	19,762	19,762	19,762	19,762
Adjusted R-squared	0.206	0.939	0.950	0.200	0.938	0.948
SIC2 FE	No	No	No	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests of risk factor disclosure complexity and litigation risk from Table 3, run with state fixed effects instead of industry fixed effects (Columns (1) to (3)), and state fixed effects along with industry and year fixed effects (Columns (4) to (6)). The dependent variable in columns (1) and (4) is the average sentence length of the risk factor disclosure, the dependent variable in columns (2) and (5) is the number of unique words from LM Master dictionary used in the disclosure, and the dependent variable in columns (3) and (6) is the Type Token Ratio of the risk factor disclosure. The main variable of interest is *Liberal_court*, which is a proxy for litigation risk based on judge ideology.

TABLE 1.11: ROBUSTNESS TESTS – USING INDUSTRY X YEAR FIXED EFFECTS

$$RFD\_complexity_{(i,t)} = \beta_0 + \beta_1 Liberal\_court_{(i,t)} + \sum_{k=2}^{18} \beta_k Controls_{(i,t)} + Industry \times YearFE + \varepsilon$$

VARIABLES	(1) Avg_ SentLength	(2) Unique_Vocab	(3) Type Token Ratio
Liberal_Court	1.362***	33.687***	0.002**
	[3.20]	[3.38]	[2.37]
Firm_Age	-0.005	-0.886***	-0.000***
	[-0.72]	[-4.10]	[-4.11]
Avg_Accruals	-0.011	0.035	0.000
	[-0.17]	[0.02]	[0.70]
BigN	0.161	13.460**	0.001**
	[0.95]	[2.12]	[2.02]
BTM	-0.027	1.554	0.000
	[-1.02]	[1.47]	[1.42]
Income	0.000	-0.000	0.000
	[0.32]	[-0.11]	[0.67]
Leverage	0.872***	-14.083*	-0.001
	[2.86]	[-1.81]	[-1.29]
Size	0.310***	3.717**	0.000
	[5.32]	[2.53]	[1.59]
Loss	0.360***	14.728***	0.001***
	[2.93]	[4.04]	[3.41]
Abn_Return	-0.365	23.984	0.001
	[-0.58]	[1.26]	[0.88]
Stderet	13.817***	345.801***	0.033**
	[3.62]	[2.69]	[2.45]
Beta	-0.399***	1.124	0.000
	[-3.51]	[0.31]	[0.46]
Returns Skewness	-0.019	-1.173**	-0.000
	[-1.07]	[-2.07]	[-1.07]
ROA	-0.038	1.420	0.000
	[-0.60]	[0.71]	[0.63]
Sh_Turn	-0.045	0.707	0.000
	[-1.19]	[0.32]	[0.57]
Ln_RFDLength	2.323***	609.602***	-0.078***
	[7.30]	[44.63]	[-52.89]
ZScore	0.000***	-0.013***	-0.000***
	[5.32]	[-6.16]	[-11.05]
Lit_Risk KS	3.896	524.695***	0.040***
	[1.32]	[4.77]	[3.78]
Constant	10.784***	-4,111.546***	0.838***
	[3.97]	[-34.61]	[64.49]
Observations	19,717	19,717	19,717
Adjusted R-squared	0.191	0.940	0.950
Fixed Effects	SIC2 X Year FE	SIC2 X Year FE	SIC2 X Year FE
Cluster	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests of risk factor disclosure complexity and litigation risk from Table 3, run with industry X year fixed effects instead of separate industry fixed effects and year fixed effects. The dependent variable in column (1) is the average sentence length of the risk factor disclosure, the dependent variable in column (2) is the number of unique words from LM Master dictionary used in the disclosure, and the dependent variable in column (3) is the Type Token Ratio of the risk factor disclosure. The main variable of interest is *Liberal_court*, which is a proxy for litigation risk based on judge ideology.

TABLE 1.12: ROBUSTNESS TESTS – USING INDUSTRY DEMEANED DEPENDENT VARIABLES

$$RFD\_complexity_{(i,t)} = \beta_0 + \beta_1 Liberal\_court_{(i,t)} + \sum_{k=2}^{18} \beta_k Controls_{(i,t)} + StateFE + YearFE + \varepsilon$$

VARIABLES	(1) Avg_ SentLength	(2) Unique_Vocab	(3) Type Token Ratio
Liberal_Court	1.707**	107.368***	0.017***
	[2.13]	[3.51]	[5.19]
Firm_Age	0.000	-0.094	-0.000***
	[0.05]	[-0.31]	[-4.36]
Avg_Accruals	-0.080	-13.715	0.002
	[-0.83]	[-1.53]	[1.39]
BigN	0.260	31.041***	-0.001
	[1.53]	[3.02]	[-1.14]
BTM	-0.002	8.978*	-0.000
	[-0.04]	[1.65]	[-1.30]
Income	-0.000	-0.004**	0.000
	[-0.02]	[-2.30]	[1.54]
Leverage	0.874***	23.778	-0.003**
	[2.95]	[1.61]	[-2.23]
Size	0.267***	1.395	0.001**
	[4.71]	[0.50]	[1.99]
Loss	0.167	-19.786***	0.005***
	[1.34]	[-2.89]	[6.55]
Abn_Return	-0.672	1.701	0.004
	[-1.04]	[0.06]	[1.09]
Stderet	7.980**	-816.619***	0.163***
	[2.22]	[-3.56]	[5.78]
Beta	-0.237**	8.106	-0.001
	[-2.19]	[1.41]	[-0.83]
Returns Skewness	-0.020	-1.139	-0.000
	[-1.28]	[-1.13]	[-0.62]
ROA	0.046	18.191**	-0.002*
	[0.51]	[2.21]	[-1.71]
Sh_Turn	-0.002	10.633***	-0.001*
	[-0.05]	[4.15]	[-1.78]
Ln_RFDLength	1.924***	521.499***	-0.068***
	[6.84]	[42.41]	[-39.01]
ZScore	0.000***	-0.017**	-0.000
	[3.41]	[-2.01]	[-0.74]
Lit_Risk KS	0.816	-275.604*	0.084***
	[0.30]	[-1.77]	[4.88]
Constant	-19.833***	-4,637.988***	0.580***
	[-8.46]	[-43.50]	[38.13]
Observations	19,762	19,762	19,762
Adjusted R-squared	0.143	0.785	0.798
Fixed Effects	State FE, Year FE	State FE, Year FE	State FE, Year FE
Cluster	Firm	Firm	Firm

Notes: All variables are defined in Appendix A. Standard errors are clustered by firm.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the main tests of risk factor disclosure complexity and litigation risk from Table 3, run with dependent variables from which industry level average has been subtracted. The dependent variable in column (1) is the industry demeaned average sentence length of the risk factor disclosure, the dependent variable in column (2) is the industry demeaned number of unique words from LM Master dictionary used in the disclosure, and the dependent variable in column (3) is the industry demeaned Type Token Ratio of the risk factor disclosure. The main variable of interest is *Liberal_court*, which is a proxy for litigation risk based on judge ideology. All tests are run using state level and year level fixed effects.

Chapter 2

Managerial Changes and Risk Factor Disclosures

2.1. Introduction

Risk factor disclosures were mandated by the Securities Exchange Commission (SEC) in 2005 to be a part of the annual reports of firms to discuss factors that made investment in a firm speculative or risky. Many studies have examined their informativeness and noted that they reflect firm risk-related characteristics and induce market reactions, while some studies have questioned this informativeness. However, there is very little evidence on management's influence on risk factor disclosures. Industry has commented that risk factor disclosures sit in the "corner of the legal department, and the corner of the financial reporting" (Berkman, 2018), with anecdotes suggesting that the legal departments lead, and have a final say in drafting these disclosures. In this paper, I use CEO changes to examine whether and how management influences risk factor disclosures.

Ex-ante, there is reason to believe that management can influence risk factor disclosures. Moon (2020) finds that CEO fixed effects explain the number of risk factors and the quality of risk factor disclosures in 15% to 20% of her dataset of 118 CEOs. Ahmed & Duellman, (2013) find that CEO overconfidence is related to reduced conservatism. The evidence in these studies taken together suggests that CEOs can have effects on risk factor disclosures in a way that makes risk factor disclosures more or less conservative. Alternatively, when a new CEO takes over, there might be concerns about the CEO meeting performance expectations, and a firm's legal department might want to issue warnings to prevent potential lawsuits in case of performance decline. Thus, changes in management should induce changes in risk factor disclosures.

It is also possible that CEO changes do not induce any changes in risk factor disclosures. The effects of top managers' characteristics can only be seen if the top managers have any discretion (Ge et al., 2011; Hambrick, 2007; Hambrick & Mason, 1984). Hence, if management has no say in drafting these disclosures, and if they are primarily drafted by the legal department, as is argued by practitioners, CEO changes should not impact risk factor disclosures. Whether and how management influences risk factor disclosures is, therefore, an empirical question.

To conduct my analysis, I start by downloading risk factor disclosures of listed firms and matching them with data on CEO changes. Using entropy-balanced regressions, I compare the changes in risk factor disclosures in CEO change firm-years with changes in risk factor disclosures for non-CEO change years. I find that risk factor disclosures are different and shorter in CEO change years and that their tone is more negative and uncertain, reflecting more conservatism in risk factor disclosure language when a new CEO takes over. I then test whether such effects also exist for CFO changes, and for management discussion and analysis (MDA) section of the annual report, and I fail to find similar results.

We can observe risk factor disclosure changes in CEO change years for two reasons. One, CEOs may be less confident of their performance and therefore be more cautious, and two, firms may be less confident of the performance of the newly appointed CEOs, so they may want to prevent shareholder litigation that may arise if CEO performance does not meet expectations. I use CEO share ownership to examine whether risk factor disclosure conservatism derives from CEO concerns, and I use firm litigation risk to examine whether risk factor disclosure conservatism derives from firm concerns. E. H. Kim & Lu, (2011) argue that large stock ownership can give managers high wealth-performance sensitivity, prompting managers to make more conservative choices. I find that the changes in risk factor disclosures around CEO changes are more pronounced for firms where CEOs have higher share ownership. Litigation risk compounds the fears of firms that poor CEO performance can invite shareholder

litigation. In my tests, however, I fail to find firm litigation risk moderating the effect of CEO changes on risk factor disclosures. These results, therefore, suggest that firm concerns do not necessarily drive risk factor disclosure changes when new CEOs take office, but CEO concerns do.

Finally, I test whether risk factor disclosure changes in the CEO change years have any information to offer to the market. For this, I run regressions of firm-level bid-ask spread on risk factor disclosure changes in CEO Change years. I fail to find any significant impact of risk factor disclosure changes on information asymmetry. This suggests that risk factor disclosure changes that happen on account of CEO changes are not informative to the market.

My study contributes to the literature on risk factor disclosures. While the literature has examined the informativeness of risk factor disclosures (e.g., Bao & Datta, 2014; Beatty et al., 2019; Campbell et al., 2014, 2019; Hope et al., 2016), and the association of risk factor disclosures with litigation risk (Cazier et al., 2021; Huang et al., 2021; Nelson & Pritchard, 2016), there is hardly any evidence on the influence of management on risk factor disclosures. Moon, (2020) finds some evidence of CEO effects on risk factor disclosure quality, and Chang, (2019) finds some effect of CEO overconfidence on risk factor disclosure quantity. I add to this limited evidence of CEO effects on risk factor disclosures, and also provide evidence on the nature and informativeness of this effect.

My study also contributes to the literature on manager effects. Extant studies have focused on manager effects on quantitative attributes of financial reporting such as management forecasts, tax avoidance, and accruals (Hanlon et al., 2022), while studies on qualitative disclosures have been few (Davis et al., 2015; Moon, 2020). I add to the literature on management effects on mandatory qualitative disclosures. It is important to study changes in mandatory qualitative

disclosures because while firms may not have a choice in making the disclosure, they do have discretion over the language within the disclosure.

The remaining part of this paper is organized as follows. Section 2.2 details the research design. Section 2.3 describes the data and summary statistics. Section 2.4 lays down the results. Section 2.5 concludes.

2.2. Research Design

2.2.1. Risk Factor Disclosure Changes

I use two variables to measure changes in risk factor disclosures. The first variable, *Cosine Difference* is calculated as one minus *Cosine Similarity*, which is a measure of similarity between two documents, calculated using the Vector Space Model. *Cosine Similarity* is calculated for two documents by converting the text of each document into a vector, after stemming and removing stopwords, and then measuring the cosine of the angle between the two vectors. This measure ranges between 0 and 1. Subtracting this value from 1 gives us a measure of how different the documents are. I compute *Cosine Difference* for every firm-year by comparing the risk factor disclosure of that firm-year with the risk factor disclosure for the same firm but the previous year. The second variable, *ΔLn RFDLength*, is calculated as the difference between the log of length of the risk factor disclosure of the firm for the year under consideration, *minus* the log of length of the risk factor disclosure of the firm for the previous year.

It is not enough to only test for changes in risk factor disclosures, it is also important to examine what the changes taking place in the risk factor disclosures are. I use the following variables to characterize risk factor disclosure changes:

Negative % – This measures the negative sentiment in the risk factor disclosure, by using the Negative word list from the dictionary created by Loughran & McDonald (2011). This

dictionary consists of negative words in the finance/accounting context, e.g., bankrupt, fraud, evade, mistake, etc. Since risk factor disclosures essentially discuss probable negative events, a higher negative sentiment is reflective of a higher discussion of risk.

Net Negative % – This is a variation of the Negative % variable above. Here I subtract the count of positive words from the count of negative words, to come up with a net negative measure. Running a separate test for positive sentiment in the risk factor disclosure language does not make sense, since risk factor disclosures are primarily a discussion of negative events. Incorporating positive sentiment in this way makes my tests more robust. Positive words are taken from the positive word list in the dictionary created by Loughran & Mcdonald, (2011).

Uncertainty % – This measures the uncertainty in the language of the risk factor disclosure, and uses the uncertainty word list from the dictionary created by Loughran & Mcdonald, (2011). A few examples of words in this list are almost, assume, believe, tentative, unclear, unobservable, etc.

For all 3 of my measures, I scale the word count with the total word count of the disclosure and express the same as percentage. After calculating these measures for the risk factor disclosure under consideration, I subtract the values of these measures for the risk factor disclosure of the same firm in the previous year. I prefix my variables with "Δ" to denote that they are all change variables, rather than level variables. I argue that these three measures reflect conservatism, in that firms wish to discuss more negative probabilities (*Negative %* and *Net Negative %*), and discuss them with more uncertainty/ambiguity (*Uncertainty %*)

2.2.2. CEO Changes

To identify CEO changes, I download firm and executive data from the Annual Compensation Data file of Execucomp for the entire universe of firms for the entire period of data available on Execucomp. I remove all observations except those for CEOs. This gives me firm-CEO

combinations for all years. I create a *CEO Change* variable that takes value 1 when the CEO for a firm in a year is different from the CEO for the same firm in the previous year, and 0 otherwise.

2.2.3. Model

I examine changes in risk factor disclosures with the following regression model

$$RFD_{i,t} = \beta_0 + \beta_1 CEO\ Change_{i,t} + \sum_{k=2}^{16} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t}$$

…(1)

Where *RFD* is one of *Cosine Difference* or *ΔLn RFDLength* when examining overall changes in risk factor disclosures, and one of *ΔNegative %*, *ΔNet Negative %* or *ΔUncertainty %* when examining changes in specific characteristics of risk factor disclosures.

Since I examine the impact of CEO changes on risk factor disclosures, I use a changes specification for my tests. All my variables are therefore change variables, computed by subtracting previous year values from current year values for the same firm. *Controls* include firm-level variables that proxy for or influence firm risk levels. *CEO Female* is an indicator taking value 1 if the CEO is female, and 0 otherwise. *Avg Accruals* is the absolute accruals scaled by total assets, *BTM* is the book-to-market ratio, *Income* is the income before extraordinary items, *Leverage* is the leverage of the firm, *Size* is the natural log of the firm's market value, *Abn_Return* is the daily abnormal stock returns for the 250 trading day period ending two trading days before the 10-K release, *Stderet* is the standard deviation of excess daily abnormal stock returns for the 250 trading day period ending two trading days before the 10-K release (calculated using the market model), *Beta* is the beta of the firm computed using the market model for the 250 trading day period ending two trading days before the 10-K release, *Returns Skewness* is the skewness of daily returns for the 250 trading day period ending

two trading days before the 10-K release, ΔROA, is the return on assets, *Sh Turnover* is the average daily share turnover (expressed as a percentage) for the 250 trading day period ending two trading days before the 10-K release, *Ln RFDLength* is the natural log of the length of the risk factor disclosure (same as the main dependent variable), *Zscore* is Altman's Z score, and *Lit_Risk KS* is the litigation risk measure created by (I. Kim & Skinner, 2012) to proxy for inherent characteristics of the firm that increase the likelihood of the firm facing litigation. Adding a "*Δ*" before each variable name denotes that these are changes variables.

My primary specification uses entropy balancing to balance the treatment sample (CEO change = 1) with the control sample (CEO change = 0). Entropy balancing is known to be doubly robust as compared to other matching methods such as propensity score matching (Zhao & Percival, 2017). We can achieve balancing not just on the mean but also on higher-order moments (Hainmueller, 2012). I balance on two moments of all the control variables mentioned above, except *ΔLn RFDLength*, since that is not a firm characteristic needing matching, but an outcome variable for my analysis. I also validate my results using ordinary least squares (OLS) method. I include year fixed effects to control for any trends in risk factor disclosure changes. Since I use a changes specification, all time-invariant firm- and industry-level effects are accounted for. I cluster standard errors at 2-digit industry SIC code level.

2.3. Data And Summary Statistics

2.3.1. Sample Selection

My sample starts in 2009 due to data availability restrictions, and ends in 2018. I obtain the text of risk factor disclosures from Calcbench. Sample construction has been summarized in Table 2.1. I start with 82,150 risk factor disclosures. After removing disclosures that belong to forms other than 10-K & 20-F, disclosures that contain less than 100 words, multiple disclosures of the same firm for one financial year, filings that do not belong to 2009-18, and

duplicates, I am left with 58,897 firm-year observations. Out of these, 38,169 observations do not have corresponding Execucomp data. A further 9,144 observations do not have enough data on control variables. This gives me 11,584 observations for my analysis.

2.3.2. Summary Statistics

Table 2.2 reports descriptive statistics of variables used in our main tests. We see that *Cosine Difference* is higher, and *ΔLn RFDLength* is lower for CEO change years as compared to non-CEO change years. We also see that increases in *ΔNegative %* and *ΔUncertainty %* are higher for CEO change years as compared to non-CEO change years.

CEO change years are more likely to have female CEOs, suggesting that newer appointees are more likely to be women. CEO change years also show lower increases in size, higher increases in abnormal returns, higher changes in skewness of returns, and higher changes in ROA. Many firm-level characteristics are statistically different between the sub-samples, underscoring the importance of the matching process in the regressions.

2.4. Empirical Results

2.4.1. Changes in Risk Factor Disclosures Around CEO Changes

Table 2.3 presents the results of Equation (1) with both entropy balancing and OLS regressions. Panel A presents results on overall changes in risk factor disclosures on the change of CEOs. In my tests with entropy balancing, the coefficient on *CEO Change* is 0.006 ($p<0.01$) when the dependent variable is *Cosine Difference*, suggesting that a risk factor disclosure made in a CEO change year is different from its previous year. The coefficient on *CEO Change* is -0.012 ($p<0.01$) when the dependent variable is *ΔLn RFDLength*, suggesting that firms shorten their risk factor disclosures in years when a new CEO joins. In terms of economic significance, in a CEO change year, the *Cosine Difference* (*ΔLn RFDLength*) is higher (lower) for a CEO change

year by 10.5% (0.13%) of the mean *Cosine Difference* (*ΔLn RFDLength*). I get qualitatively similar results with OLS regressions.

Panel B presents results on changes to specific risk factor disclosure characteristics. In my tests with entropy balancing, the coefficient on *CEO Change* is 0.02 ($p<0.01$) when the dependent variable is *ΔNegative %*, and 0.015 ($p<0.05$) when the dependent variable is *ΔNet Negative %*, suggesting that in years of CEO changes, risk factor disclosure tone becomes more negative. The coefficient on *CEO Change* is 0.012 ($p<0.05$) when the dependent variable is *ΔUncertainty %*, suggesting that in CEO change years, the discussions in risk factor disclosures are characterized by more uncertainty. In terms of economic significance, in a CEO change year, the *ΔNegative %* (*ΔNet Negative %*, *ΔUncertainty %*) is higher by 54% (35.7%, 600%) of the mean *ΔNegative %* (*ΔNet Negative %*, *ΔUncertainty %*). We get qualitatively similar results with OLS regressions.

These results suggest that when a new CEO takes over, risk factor disclosures change to reflect more conservatism, suggesting that new CEOs are, on average, less overconfident and thus more conservative.

2.4.2. Placebo Tests

Next, I run placebo tests to see whether my results with CEO changes exist for other managerial changes and for other disclosures. To test this, I run regression (1) with *CFO change* instead of *CEO change*. Table 2.4 reports the results. Although the coefficient on *CEO Change* is not significant when the dependent variable is *Cosine Difference*, the coefficient for the *ΔLn RFDLength* regression indicates that in CFO change years, risk factor disclosures are shorter. On further examination, I do not find any significant difference between CFO change years and non-CFO change years in terms of changes in specific risk factor disclosure characteristics.

These results are thus consistent with risk factor disclosures not undergoing a significant change when a new CFO joins the firm.

For my second placebo test, I run regression model (1) with Management Discussion and Analysis ("MDA") changes, instead of risk factor disclosure changes. Results in Table 2.5 indicate that there are no changes to MDA when a new CEO takes over.

These results indicate that my finding of risk factor disclosure changes associated with CEO changes is not a general phenomenon that exists for other managerial changes or for other disclosures.

2.4.3. CEO Personal Concerns Versus Firm Concerns

I further examine whether CEOs' personal concerns, or firms' concerns, or both, drive risk factor disclosure changes. Conservatism in risk factor disclosures can be a consequence of firms' concerns that a new CEO may not be able to meet performance expectations. This may be specific to the legal department which may be concerned about potential lawsuits on account of a performance drop, and may then feel that a warning is necessary. Conservatism in risk factor disclosures can also be a consequence of the CEO's personal concerns, or lack of confidence on taking a new role. I run cross-sectional tests to examine these motives.

If conservatism in risk factor disclosures derives from CEO's personal fears or risk aversion, CEO-related partitions should provide meaningful variations in my results. E. H. Kim & Lu, (2011) argue that large stock ownership can give managers high wealth-performance sensitivity, prompting managers to make more conservative choices. I create deciles of CEO share ownership and modify equation (1) by interacting this decile variable with *CEO Change*. As can be seen in Table 2.6, CEOs who take up new roles with higher share ownership make more changes to these disclosures and have more negative and uncertain tone in their language. This suggests that CEOs' personal conservatism creeps into risk factor disclosures.

If firms' concerns also contribute to the conservatism in risk factor disclosures, the litigation risk faced by a firm should affect the association between CEO changes and risk factor disclosures. Extant studies find that risk factor disclosures provide firms with some protection from lawsuits (Cazier et al., 2021), and therefore firms that have more litigation risk should be more conservative in their risk factor disclosures when a new CEO is appointed. I use two variables to proxy for litigation risk: first, I use *Liberal Court* created by Huang et al., (2019) which measures the extent to which a circuit court of appeals is liberal, and therefore more anti-business, and; second, I use the litigation risk measure created by Kim and Skinner (2012). I create decile variables for both these and modify regression model (1) by interacting these decile variables, one by one with *CEO Change*. The results of the regressions are presented in Table 2.7. Columns (1) to (5) contain results with the Liberal Court measure, and columns (6) to (10) contain results with the Kim & Skinner measure. My results indicate that for both measures, litigation risk does not drive changes in risk factor disclosures, or in other words, firm litigation concerns do not have a bearing on risk factor disclosures. Taken together, my results are consistent with risk factor disclosure changes being impacted by CEO conservatism rather than firm conservatism.

2.4.4. Informativeness of CEO Change-induced Risk Factor Disclosure Changes

Finally, I test whether the changes taking place in risk factor disclosures are informative to the market. To do this, I run the following regression model:

$$Spread_{i,t} = \beta_0 + \beta_1 CEO\ Change_{i,t} * RFD_{i,t} + \beta_2 RFD_{i,t} + \beta_3 CEO\ Change_{i,t} + \sum_{k=4}^{18} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t} \quad \ldots(2)$$

Where *Spread* is calculated as the daily bid-ask spread for each firm's security using daily level data from CRSP by dividing the Ask – Bid price for the firm's stock on that day by the average of the Ask + Bid price for the firm's stock on the same day[13]. I average this daily value over [0, 3] days, [0, 7] days, or [0, 60] days around the 10-K filing date. *RFD* is one of *Cosine Difference*, *ΔLn RFDLength*, *ΔNegative %*, *ΔNet Negative %*, or *ΔUncertainty %*, and *Controls* are as defined before with one change – all control variables are now used at levels instead of changes, since the variable *Spread* is a levels variable.

Table 2.8 Panel A presents the results of the regression with overall risk factor disclosure changes. It can be seen that for both *Cosine Difference* and *ΔLn RFDLength*, risk factor disclosure changes on account of CEO changes have no effect on information asymmetry, even though *Cosine Difference* by itself reduces bid-ask spread around filing date. Panel B of Table 2.8 shows that changes in negative and uncertain language in CEO change years also do not have any effect on information asymmetry. These results suggest that the changes taking place in risk factor disclosures on account of CEO changes have no information value to the market.

2.5. Conclusion

Risk factor disclosures were mandated to be a part of the annual report in 2005 by the SEC. Academic studies have examined whether or not these disclosures are informative to the market, but the evidence on management's influence on these disclosures is scarce. This is especially important in light of practitioner comments that risk factor disclosures are heavily

[13] This is similar to (Garfinkel, 2009) who uses TAQ data to arrive at an average daily bid-ask spread. He uses [(ask-bid)/(ask+bid)/2] at intra-day level and then averages all values of the day to arrive at an average value for the entire day, which he then uses for analysis. In his analysis he uses intra-day data to arrive at daily values, whereas I use daily data to arrive at yearly values.

influenced by firms' legal departments. I test whether CEO changes are associated with changes in risk factor disclosures.

Using entropy-balanced regressions, I find that in the years when a new CEO takes leadership in a firm, there are changes in risk factor disclosures and that the negative and uncertain tone in these disclosures increases. I find that these changes are more pronounced for firms that appoint CEOs with higher share ownership. These results are consistent with newly appointed CEOs introducing conservatism in risk factor disclosures on account of their lack of confidence. I also find that the risk factor disclosure changes on account of CEO changes are not informative to the market.

My paper contributes to the literature on risk factor disclosures and the literature on manager effects in financial reporting. It also provides evidence *countering* industry criticism that the process of risk factor disclosure drafting does not involve management. However, it does provide evidence to *support* industry criticism that risk factor disclosures take on a protective role rather than an informative one.

TABLE 2.1: SAMPLE SELECTION

Particulars		**Observations**
Item 1A downloaded from Calcbench (Years 2008-19)		**82,150**
Exclude:		
Forms other than 10-K & 20-F	330	
Disclosures containing < 100 words	9,316	
Multiple filings for the same year	3,664	
Financial years before 2009 and after 2018	9,909	
Duplicates	34	23,253
Remaining disclosures from Calcbench data		**58,897**
Exclude further:		
Observations for which corresponding Execucomp data not found	38,169	
Observations for which control variables not found	9,144	57,222
Remaining observations used in analysis		**11,584**

TABLE 2.2: SUMMARY STATISTICS

VARIABLES	CEO Change = 0 N	mean	p25	p50	p75	sd	CEO Change = 1 N	mean	p25	p50	p75	sd	Difference Significance
Risk Factor Disclosure Characteristics													
Cosine Difference	10,420	0.056	0.017	0.032	0.064	0.075	1,164	0.062	0.019	0.038	0.071	0.079	**
ΔLn RFDLength	10,420	0.052	-0.006	0.036	0.098	0.166	1,164	0.039	-0.021	0.032	0.098	0.166	**
ΔNegative %	10,420	0.035	-0.088	0.014	0.137	0.274	1,164	0.055	-0.079	0.035	0.178	0.282	**
ΔNet Negative %	10,420	0.041	-0.092	0.018	0.157	0.300	1,164	0.056	-0.086	0.038	0.199	0.321	
ΔUncertainty %	10,420	0.001	-0.076	-0.001	0.076	0.185	1,164	0.016	-0.071	0.006	0.094	0.184	***
Controls													
CEO Female	10,420	0.040	0.000	0.000	0.000	0.195	1,164	0.059	0.000	0.000	0.000	0.236	***
ΔAvg Accruals	10,420	-0.004	-0.027	-0.002	0.023	0.100	1,164	-0.008	-0.030	0.000	0.029	0.158	
ΔBTM	10,420	-0.025	-0.082	-0.012	0.054	0.533	1,164	-0.006	-0.097	-0.013	0.068	0.673	
ΔIncome	10,420	41.356	-19.638	7.822	58.103	1,145.197	1,164	29.969	-29.109	9.925	76.495	1,445.943	
ΔLeverage	10,420	0.007	-0.020	0.000	0.021	0.083	1,164	0.004	-0.019	0.000	0.022	0.097	
ΔSize	10,420	0.106	-0.085	0.112	0.302	0.392	1,164	0.081	-0.129	0.080	0.294	0.450	**
ΔAbn_Return	10,420	-0.000	-0.015	-0.000	0.015	0.052	1,164	0.003	-0.016	0.000	0.018	0.065	**
ΔStderet	10,420	-0.001	-0.004	-0.001	0.002	0.010	1,164	-0.001	-0.004	-0.001	0.002	0.009	**
ΔBeta	10,420	-0.006	-0.199	-0.008	0.189	0.366	1,164	0.003	-0.191	-0.010	0.201	0.385	
ΔReturns Skewness	10,420	-0.013	-0.767	-0.034	0.664	1.870	1,164	0.144	-0.743	0.053	0.884	1.923	***
ΔROA	10,420	0.003	-0.020	0.001	0.022	0.119	1,164	0.019	-0.021	0.002	0.030	0.183	***
ΔSh Turnover	10,420	-0.000	-0.002	-0.000	0.001	0.005	1,164	-0.000	-0.002	-0.000	0.001	0.008	
ΔZscore	10,420	-0.019	-0.387	0.043	0.493	4.407	1,164	0.088	-0.348	0.043	0.470	2.345	
ΔLit_Risk KS	10,420	0.000	-0.005	0.000	0.005	0.015	1,164	-0.000	-0.005	0.000	0.005	0.016	
MDA Characteristics													
MDA Cosine Difference	9,807	0.109	0.069	0.092	0.126	0.079	1,104	0.111	0.072	0.095	0.128	0.081	
ΔLn MDALength	9,281	0.000	-0.061	0.004	0.066	0.323	1,027	-0.019	-0.072	-0.006	0.057	0.400	*

Notes: All variables are defined in Appendix C. This table provides descriptive statistics for all the variables used. The sample is partitioned by CEO change.
*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests).

TABLE 2.3: CHANGES IN RISK FACTOR DISCLOSURES AROUND CEO CHANGES

$$RFD_{i,t} = \beta_0 + \beta_1 CEO\ Change_{i,t} + \sum_{k=2}^{16} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t}$$

PANEL A: OVERALL CHANGES

VARIABLES	(1) Cosine Difference	(2) ΔLn RFDLength	(3) Cosine Difference	(4) ΔLn RFDLength
CEO Change	0.006***	-0.012***	0.007***	-0.011***
	[2.66]	[-3.15]	[3.34]	[-3.00]
CEO Female	-0.005	-0.001	-0.003	0.003
	[-1.12]	[-0.11]	[-0.67]	[0.41]
ΔAvg Accruals	0.014	-0.085***	0.006	-0.042**
	[0.88]	[-3.04]	[0.50]	[-2.36]
ΔBTM	0.006	0.010	-0.001	0.009***
	[1.55]	[1.38]	[-0.22]	[2.78]
ΔIncome	-0.000	-0.000	-0.000	-0.000**
	[-1.59]	[-1.54]	[-0.63]	[-2.32]
ΔLeverage	0.003	0.117***	0.024***	0.182***
	[0.22]	[2.98]	[3.24]	[5.46]
ΔSize	-0.003	-0.004	-0.001	0.004
	[-0.49]	[-0.36]	[-0.42]	[0.66]
ΔAbn_Return	0.012	0.018	0.021*	0.015
	[0.70]	[0.43]	[1.82]	[0.84]
ΔStderet	-0.298	1.586***	-0.047	0.891***
	[-1.05]	[2.91]	[-0.50]	[3.70]
ΔBeta	0.002	-0.001	-0.001	0.007
	[0.74]	[-0.13]	[-0.44]	[1.15]
ΔReturns Skewness	0.001	0.000	0.001**	0.001
	[0.84]	[0.25]	[2.18]	[1.11]
ΔROA	0.032	-0.098***	0.012	-0.064***
	[1.38]	[-3.39]	[0.89]	[-6.43]
ΔSh Turnover	0.737**	0.641	0.348*	0.797**
	[2.32]	[1.09]	[1.84]	[2.30]
ΔLn RFDLength	0.017		0.063***	
	[0.60]		[2.68]	
ΔZscore	-0.001*	0.000	-0.000***	-0.000
	[-1.74]	[0.22]	[-2.67]	[-1.00]
ΔLit_Risk KS	0.059	0.126	0.048	0.175
	[0.66]	[0.59]	[1.03]	[1.55]
Constant	0.055***	0.054***	0.053***	0.052***
	[20.44]	[23.70]	[26.12]	[21.75]
Observations	11,584	11,584	11,584	11,584
Adjusted R-squared	0.128	0.028	0.157	0.021
Model	Entropy	Entropy	OLS	OLS
FE	Year	Year	Year	Year
Cluster	Industry	Industry	Industry	Industry

PANEL B: CHANGES IN SPECIFIC CHARACTERISTICS

VARIABLES	(1) ΔNegative %	(2) ΔNet Negative %	(3) ΔUncertainty %	(4) ΔNegative %	(5) ΔNet Negative %	(6) ΔUncertainty %
CEO Change	0.020***	0.015**	0.012**	0.019***	0.014*	0.012**
	[2.99]	[2.09]	[2.24]	[2.72]	[1.88]	[2.07]
CEO Female	0.006	0.009	-0.013	-0.016	-0.013	-0.018
	[0.29]	[0.39]	[-1.10]	[-0.93]	[-0.73]	[-1.60]
ΔAvg Accruals	0.062	0.063	-0.058	0.043	0.039	0.004
	[1.43]	[1.20]	[-1.25]	[1.02]	[0.95]	[0.13]
ΔBTM	0.006	0.005	0.008	-0.002	-0.002	-0.001
	[0.53]	[0.51]	[0.99]	[-0.34]	[-0.39]	[-0.28]
ΔIncome	-0.000	-0.000	-0.000	-0.000	0.000	-0.000
	[-1.16]	[-1.03]	[-1.38]	[-0.32]	[0.27]	[-1.36]
ΔLeverage	-0.156***	-0.187***	-0.055*	-0.113**	-0.114**	-0.056**
	[-3.23]	[-3.78]	[-1.95]	[-2.44]	[-2.53]	[-2.48]
ΔSize	-0.033**	-0.035**	0.018	-0.015	-0.018*	0.016***
	[-2.52]	[-2.49]	[1.65]	[-1.52]	[-1.94]	[3.03]
ΔAbn_Return	0.083*	0.103*	0.021	0.027	0.031	0.027
	[1.74]	[1.86]	[0.63]	[0.79]	[0.85]	[1.27]
ΔStderet	-1.980***	-2.135***	-1.649***	-0.264	-0.432*	-0.197
	[-3.15]	[-3.02]	[-3.07]	[-0.77]	[-1.69]	[-1.05]
ΔBeta	0.008	0.012	-0.003	0.002	0.007	0.004
	[0.83]	[1.05]	[-0.34]	[0.30]	[0.93]	[0.78]
ΔReturns Skewness	-0.000	0.001	0.003*	-0.001	-0.001	0.001
	[-0.01]	[0.31]	[1.77]	[-0.82]	[-0.37]	[1.33]
ΔROA	0.010	-0.009	-0.021	0.013	-0.008	0.040
	[0.23]	[-0.19]	[-0.58]	[0.28]	[-0.18]	[1.58]
ΔSh Turnover	0.960	1.039	0.664	0.673	1.005**	-0.467
	[1.07]	[1.32]	[0.82]	[1.16]	[2.14]	[-1.18]
ΔLn RFDLength	0.123	0.132	-0.207*	0.028	0.013	-0.210**
	[0.81]	[0.76]	[-1.97]	[0.35]	[0.16]	[-2.58]
ΔZscore	0.001	0.001	-0.001	0.001***	0.001***	-0.000
	[0.21]	[0.34]	[-1.36]	[2.96]	[2.72]	[-1.45]
ΔLit_Risk KS	0.020	0.123	-0.029	0.294	0.394*	0.073
	[0.06]	[0.38]	[-0.18]	[1.60]	[1.80]	[0.76]
Constant	0.032***	0.037***	0.010	0.037***	0.043***	0.011**
	[4.21]	[4.48]	[1.63]	[9.85]	[11.94]	[2.14]
Observations	11,584	11,584	11,584	11,584	11,584	11,584
Adjusted R-squared	0.020	0.019	0.052	0.012	0.010	0.042
Model	Entropy	Entropy	Entropy	OLS	OLS	OLS
FE	Year	Year	Year	Year	Year	Year
Cluster	Industry	Industry	Industry	Industry	Industry	Industry

Notes: All variables are defined in Appendix C. Standard errors are clustered by 2-digit SIC code.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the regression model (1), with both entropy balanced and OLS regressions. All variables except *CEO Change* and *CEO Female* are change variables, and the regression includes year fixed effects. The main variable of interest is *CEO Change* which is an indicator that takes value 1 in the first year of a CEO's tenure.

Panel A presents the results of the tests with overall changes in risk factor disclosures. Columns (1) & (2) present results with entropy balancing, while Columns (3) & (4) present results with OLS. The dependent variable in Columns (1) & (3) is *Cosine Difference*, while the dependent variable in Columns (2) and (4) is *ΔLn RFDLength*.

Panel B presents the results of the changes in specific risk factor disclosure characteristics. Columns (1) to (3) present results with entropy balancing, while Columns (4) to (6) present results with OLS. The dependent variable in columns (1) & (4) is *ΔNegative %*, the dependent variable in columns (2) & (5) is *ΔNet Negative %*, and the dependent variable in columns (3) & (6) is *ΔUncertainty %.*

TABLE 2.4: CHANGES IN RISK FACTOR DISCLOSURE AROUND CFO CHANGES

$$RFD_{i,t} = \beta_0 + \beta_1 CFO\ Change_{i,t} + \sum_{k=2}^{16} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t}$$

VARIABLES	(1) Cosine Difference	(2) ΔLn RFDLength	(3) ΔNegative %	(4) ΔNet Negative %	(5) ΔUncertainty %	(6) Cosine Difference	(7) ΔLn RFDLength	(8) ΔNegative %	(9) ΔNet Negative %	(10) ΔUncertainty %
CFO Change	0.001	-0.011**	0.001	0.002	-0.004	0.002	-0.008*	-0.001	-0.001	-0.003
	[0.38]	[-2.17]	[0.11]	[0.25]	[-0.96]	[1.27]	[-1.86]	[-0.16]	[-0.20]	[-0.53]
CFO Female	0.000	-0.011*	-0.007	-0.005	0.005	0.000	-0.008*	-0.009	-0.007	0.004
	[0.04]	[-1.87]	[-0.53]	[-0.30]	[0.75]	[0.15]	[-1.95]	[-1.01]	[-0.72]	[0.89]
Observations	11,459	11,459	11,459	11,459	11,459	11,459	11,459	11,459	11,459	11,459
Adjusted R-squared	0.136	0.030	0.015	0.017	0.025	0.159	0.021	0.012	0.011	0.040
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Model	Entropy	Entropy	Entropy	Entropy	Entropy	OLS	OLS	OLS	OLS	OLS
FE	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
Cluster	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry

Notes: All variables are defined in Appendix C. Standard errors are clustered by 2-digit SIC code.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of a placebo test. I run the same regression as in Table 3, but change the independent variable to *CFO Change*. This table contains results with both entropy balanced and OLS regressions. Controls as the same as in Table 3. All variables except *CFO Change* and *CFO Female* are change variables, and the regression includes year fixed effects. The main variable of interest is *CFO* Change which is an indicator that takes value 1 in the first year of a CFO's tenure. Columns (1) to (5) present results with entropy balancing, while columns (6) to (10) present results with OLS. The dependent variable in columns (1) & (6) is *Cosine Difference*, the dependent variable in columns (2) and (7) is *ΔLn RFDLength*, the dependent variable in columns (3) & (8) is *ΔNegative %*, the dependent variable in columns (4) & (9) is *ΔNet Negative %*, and the dependent variable in columns (5) & (10) is *ΔUncertainty %*.

TABLE 2.5: CHANGES IN MANAGEMENT DISCUSSION AND ANALYSIS SECTION AROUND CEO CHANGES

$$MDA_{i,t} = \beta_0 + \beta_1 CEO\ Change_{i,t} + \sum_{k=2}^{16} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t}$$

VARIABLES	(1) MDA Cosine Difference	(2) ΔLn MDALength	(3) MDA Cosine Difference	(4) ΔLn MDALength
CEO Change	0.004	-0.001	0.004*	-0.019
	[1.64]	[-0.08]	[1.86]	[-1.30]
CEO Female	-0.013***	0.011	-0.010***	0.005
	[-3.35]	[0.84]	[-3.37]	[0.56]
Observations	10,308	10,308	10,308	10,308
Adjusted R-squared	0.035	0.010	0.032	0.005
Model	Entropy	Entropy	OLS	OLS
FE	Year	Year	Year	Year
Cluster	Industry	Industry	Industry	Industry

Notes: All variables are defined in Appendix C. Standard errors are clustered by 2-digit SIC code.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of a placebo test. I run the same regression as in Table 3 Panel A, but change the dependent variable to *MDA Cosine Difference* (Columns 1 & 3), and *ΔLn MDALength* (Columns 2 & 4). This table contains results with both entropy balanced and OLS regressions. Controls as the same as in Table 3. All variables except *CEO Change* and *CEO Female* are change variables, and the regression includes year fixed effects. The main variable of interest is *CEO Change* which is an indicator that takes value 1 in the first year of a CEO's tenure. Columns (1) & (2) present results with entropy balancing, while Columns (3) & (4) present results with OLS.

TABLE 2.6: CEO OWNERSHIP AND CONSERVATIVE RISK FACTOR DISCLOSURES

$$RFD_{i,t} = \beta_0 + \beta_1 CEO\ Change_{i,t} * CEO\ ShrOwnDecile_{i,t} + \beta_2 CEO\ ShrOwnDecile_{i,t} + \beta_3 CEO\ Change_{i,t} + \sum_{k=4}^{18} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t}$$

VARIABLES	(1) Cosine Difference	(2) ΔLn RFDLength	(3) ΔNegative %	(4) ΔNet Negative %	(5) ΔUncertainty %
CEO Change*CEO ShrOwnDecile	0.002*	-0.002	0.009**	0.010***	0.007**
	[1.96]	[-0.71]	[2.47]	[2.84]	[2.18]
CEO ShrOwnDecile	-0.002***	-0.001**	-0.002*	-0.002	-0.001
	[-4.24]	[-2.46]	[-1.82]	[-1.51]	[-0.75]
CEO Change	-0.005	-0.007	-0.016	-0.025*	-0.012
	[-1.34]	[-0.71]	[-1.29]	[-1.86]	[-0.94]
CEO Female	-0.004	0.001	0.004	0.009	-0.016
	[-0.82]	[0.14]	[0.23]	[0.36]	[-1.27]
ΔAvg Accruals	0.015	-0.066**	0.036	0.057	-0.056
	[0.94]	[-2.48]	[0.65]	[0.89]	[-1.39]
ΔBTM	0.008	0.008	0.014	0.013	0.015
	[1.19]	[0.62]	[0.72]	[0.75]	[1.09]
ΔIncome	-0.000	-0.000	-0.000	-0.000	-0.000
	[-1.61]	[-1.64]	[-1.06]	[-0.96]	[-1.33]
ΔLeverage	0.026	0.109***	-0.141**	-0.167**	-0.032
	[1.41]	[3.30]	[-2.19]	[-2.51]	[-0.97]
ΔSize	-0.002	0.002	-0.032**	-0.036**	0.016
	[-0.28]	[0.14]	[-2.12]	[-2.07]	[1.38]
ΔAbn_Return	0.023	0.001	0.060	0.060	0.032
	[1.24]	[0.02]	[1.28]	[1.02]	[0.84]
ΔStderet	-0.275	2.194***	-2.112**	-2.232**	-2.017***
	[-0.80]	[3.41]	[-2.65]	[-2.42]	[-3.48]
ΔBeta	0.003	-0.001	0.011	0.016	-0.001
	[1.09]	[-0.13]	[1.07]	[1.16]	[-0.08]
ΔReturns Skewness	0.000	0.000	-0.001	0.001	0.003*
	[0.58]	[0.13]	[-0.22]	[0.30]	[1.81]
ΔROA	0.033*	-0.088***	0.008	0.007	-0.002
	[1.94]	[-3.66]	[0.16]	[0.12]	[-0.05]
ΔSh Turnover	0.884**	0.559	1.666*	1.736**	1.037
	[2.45]	[0.90]	[1.89]	[2.17]	[1.06]
ΔLn RFDLength	0.021		0.168	0.176	-0.187*
	[0.71]		[1.11]	[1.00]	[-1.74]
ΔZscore	-0.001	-0.000	0.001	0.001	-0.001
	[-1.29]	[-0.29]	[0.22]	[0.20]	[-0.86]
ΔLit_Risk KS	0.062	0.081	0.075	0.182	-0.038
	[0.68]	[0.39]	[0.24]	[0.56]	[-0.24]
Constant	0.064***	0.060***	0.042***	0.046***	0.012*
	[17.56]	[14.85]	[3.39]	[3.54]	[1.77]
Observations	11,051	11,051	11,051	11,051	11,051
Adjusted R-squared	0.142	0.026	0.024	0.023	0.048
Model	Entropy	Entropy	Entropy	Entropy	Entropy
FE	Year	Year	Year	Year	Year
Cluster	Industry	Industry	Industry	Industry	Industry

Notes: All variables are defined in Appendix C. Standard errors are clustered by 2-digit SIC code.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the cross-sectional tests with CEO Share Ownership using entropy balancing. The dependent variables are the risk factor disclosure changes. The main variable of interest is *CEO Change*CEO ShrOwnDecile*. *CEO Change* is an indicator that takes value 1 in the first year of a CEO's tenure. *CEO ShrOwnDecile* denotes the decile ranks of the observations according to the CEO's share ownership. The dependent variable in column (1) is *Cosine Difference*, the dependent variable in column (2) is *ΔLn RFDLength*, the dependent variable in column (3) is *ΔNegative %*, the dependent variable in column (4) is *ΔNet Negative %*, and the dependent variable in column (5) is *ΔUncertainty %*.

TABLE 2.7: FIRM LITIGATION RISK AND CONSERVATIVE RISK FACTOR DISCLOSURES

$$RFD_{i,t} = \beta_0 + \beta_1 CEO\ Change_{i,t} * Litigation\ Risk_{i,t} + \beta_2 Litigation\ Risk_{i,t} + \beta_3 CEO\ Change_{i,t} + \sum_{k=4}^{18} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t}$$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Litigation Risk = Liberal Court					Litigation Risk = Kim & Skinner (2012) Measure				
VARIABLES	Cosine Difference	ΔLn RFDLength	ΔNegative %	ΔNet Negative %	ΔUncertainty %	Cosine Difference	ΔLn RFDLength	ΔNegative %	ΔNet Negative %	ΔUncertainty %
CEO Change*Firm Litigation Risk	-0.001	0.002	0.006	0.006	-0.002	0.001	-0.001	0.003	0.003	-0.002
	[-0.71]	[1.12]	[1.43]	[1.12]	[-1.05]	[0.81]	[-0.40]	[1.20]	[1.12]	[-0.65]
Firm Litigation Risk	-0.002***	-0.002**	-0.000	0.000	0.000	-0.001*	-0.001	-0.001	-0.000	-0.001
	[-4.22]	[-2.08]	[-0.36]	[0.12]	[0.46]	[-1.92]	[-0.98]	[-0.90]	[-0.32]	[-1.00]
CEO Change	0.009	-0.023**	-0.014	-0.020	0.024**	0.003	-0.008	0.002	-0.004	0.022
	[1.60]	[-2.05]	[-0.61]	[-0.64]	[2.10]	[0.77]	[-0.74]	[0.12]	[-0.19]	[1.41]
CEO Female	-0.004	0.000	0.006	0.010	-0.012	-0.005	-0.001	0.009	0.014	-0.012
	[-0.91]	[0.00]	[0.33]	[0.43]	[-1.00]	[-1.12]	[-0.08]	[0.48]	[0.56]	[-1.03]
ΔAvg Accruals	0.014	-0.083***	0.050	0.054	-0.052	0.014	-0.082***	0.051	0.055	-0.054
	[0.91]	[-3.08]	[1.14]	[1.06]	[-1.17]	[0.90]	[-3.03]	[1.15]	[1.06]	[-1.22]
ΔBTM	0.005	0.014	0.004	0.001	0.009	0.005	0.015	0.005	0.002	0.008
	[0.95]	[1.36]	[0.23]	[0.09]	[0.72]	[0.84]	[1.40]	[0.29]	[0.15]	[0.70]
ΔIncome	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-1.50]	[-1.61]	[-1.05]	[-0.90]	[-1.62]	[-1.41]	[-1.63]	[-1.09]	[-0.96]	[-1.63]
ΔLeverage	0.007	0.122**	-0.165***	-0.193***	-0.047	0.003	0.124**	-0.158***	-0.183***	-0.051
	[0.48]	[2.64]	[-3.30]	[-3.91]	[-1.53]	[0.20]	[2.66]	[-3.21]	[-3.79]	[-1.62]
ΔSize	-0.004	-0.001	-0.036**	-0.039**	0.015	-0.005	-0.003	-0.034**	-0.036**	0.014
	[-0.77]	[-0.12]	[-2.59]	[-2.46]	[1.37]	[-0.97]	[-0.25]	[-2.48]	[-2.30]	[1.30]
ΔAbn_Return	0.010	0.019	0.078	0.098	0.017	0.011	0.016	0.078	0.098	0.015
	[0.57]	[0.45]	[1.44]	[1.59]	[0.48]	[0.60]	[0.37]	[1.42]	[1.58]	[0.42]
ΔStderet	-0.337	1.628***	-2.008***	-2.261***	-1.625***	-0.306	1.528***	-2.052***	-2.281***	-1.596***
	[-1.15]	[3.05]	[-3.23]	[-3.22]	[-3.04]	[-1.11]	[2.89]	[-3.41]	[-3.31]	[-3.16]
ΔBeta	0.004	0.000	0.008	0.013	-0.005	0.004	-0.001	0.009	0.014	-0.006
	[1.24]	[0.01]	[0.87]	[1.06]	[-0.50]	[1.18]	[-0.11]	[0.96]	[1.13]	[-0.66]
ΔReturns Skewness	0.001	0.000	0.000	0.001	0.003	0.001	0.001	0.000	0.001	0.003

	[1.15]	[0.26]	[0.10]	[0.41]	[1.59]	[1.32]	[0.33]	[0.05]	[0.35]	[1.59]
ΔROA	0.029	-0.100***	0.001	-0.016	-0.016	0.028	-0.098***	0.003	-0.015	-0.018
	[1.43]	[-3.55]	[0.03]	[-0.35]	[-0.46]	[1.36]	[-3.47]	[0.06]	[-0.32]	[-0.54]
ΔSh Turnover	0.729**	0.434	1.218	1.314*	0.648	0.668**	0.487	1.242*	1.364**	0.610
	[2.47]	[0.85]	[1.64]	[1.93]	[0.78]	[2.24]	[0.96]	[1.73]	[2.05]	[0.73]
ΔLn RFDLength	0.016		0.130	0.137	-0.202*	0.020		0.126	0.127	-0.218*
	[0.56]		[0.82]	[0.75]	[-1.85]	[0.67]		[0.78]	[0.67]	[-1.95]
ΔZscore	-0.001	0.000	0.001	0.001	-0.001	-0.001	0.000	0.001	0.001	-0.001
	[-1.26]	[0.10]	[0.24]	[0.34]	[-0.97]	[-1.33]	[0.10]	[0.28]	[0.39]	[-1.01]
ΔLit_Risk KS	0.054	0.116	0.025	0.125	-0.119	0.088	0.140	0.004	0.079	-0.072
	[0.59]	[0.55]	[0.08]	[0.40]	[-0.68]	[1.00]	[0.66]	[0.01]	[0.24]	[-0.44]
Constant	0.065***	0.062***	0.035**	0.036**	0.008	0.061***	0.058***	0.037***	0.039***	0.014*
	[17.72]	[14.69]	[2.55]	[2.45]	[0.93]	[17.63]	[13.91]	[3.25]	[3.03]	[1.74]
Observations	11,189	11,189	11,189	11,189	11,189	11,182	11,182	11,182	11,182	11,182
Adjusted R-squared	0.130	0.029	0.022	0.021	0.049	0.127	0.028	0.020	0.019	0.053
Model	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy
FE	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
Cluster	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry

Notes: All variables are defined in Appendix C. Standard errors are clustered by 2-digit SIC code.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the cross-sectional tests with firm litigation risk using entropy balancing. The dependent variables are the risk factor disclosure changes. The main variable of interest is *CEO Change*Firm Litigation Risk. CEO Change* is an indicator that takes value 1 in the first year of a CEO's tenure. *Firm Litigation Risk* denotes the decile ranks of the observations according to the firm's litigation risk. In columns (1) to (5), Liberal Court is taken as firm litigation risk, and in columns (6) to (10), the measure of litigation risk created by Kim & Skinner (2012) is taken as firm's litigation risk. The dependent variable in columns (1) & (6) is *Cosine Difference*, the dependent variable in columns (2) and (7) is *ΔLn RFDLength*, the dependent variable in columns (3) & (8) is *ΔNegative %*, the dependent variable in columns (4) & (9) is *ΔNet Negative %*, and the dependent variable in columns (5) & (10) is *ΔUncertainty %.*

TABLE 2.8: INFORMATIVENESS OF CEO CHANGE-INDUCED RISK FACTOR DISCLOSURE CHANGES

$$Spread_{i,t} = \beta_0 + \beta_1 CEO\ Change_{i,t} * RFD_{i,t} + \beta_2 RFD_{i,t} + \beta_3 CEO\ Change_{i,t} + \sum_{k=4}^{18} \beta_k\ Controls_{i,t} + YearFE + \varepsilon_{i,t}$$

PANEL A: OVERALL CHANGES

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Spread[0,3]		Spread[0,7]		Spread[0,60]	
CEO Change*Cosine Difference	0.001		0.001		0.001	
	[0.99]		[1.04]		[0.69]	
Cosine Difference	-0.002**		-0.002***		-0.002***	
	[-2.52]		[-2.99]		[-2.87]	
CEO Change*ΔLn RFDLength		0.000		0.001		0.000
		[0.79]		[1.25]		[0.42]
ΔLn RFDLength		-0.000		-0.000		0.000
		[-0.82]		[-0.83]		[0.16]
CEO Change	-0.000	0.000	-0.000	-0.000	-0.000	0.000
	[-0.29]	[0.08]	[-0.52]	[-0.15]	[-0.21]	[0.09]
CEO Female	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.17]	[-0.16]	[-0.23]	[-0.22]	[-0.17]	[-0.15]
Avg Accruals	-0.005***	-0.005***	-0.004***	-0.004***	-0.004***	-0.004***
	[-3.96]	[-3.98]	[-5.00]	[-5.04]	[-3.23]	[-3.21]
BTM	0.000	0.000	0.000	0.000	0.001**	0.001**
	[1.29]	[1.27]	[1.29]	[1.31]	[2.25]	[2.24]
Income	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.57]	[-0.56]	[-0.38]	[-0.38]	[-0.21]	[-0.20]
Leverage	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.73]	[-0.75]	[-0.40]	[-0.44]	[-0.04]	[-0.09]
Size	-0.001**	-0.001*	-0.001**	-0.001**	-0.000**	-0.000**
	[-2.01]	[-1.99]	[-2.12]	[-2.10]	[-2.11]	[-2.04]
Abn_Return	-0.001	-0.001	-0.001	-0.001	-0.003**	-0.003**
	[-1.08]	[-1.09]	[-1.00]	[-0.98]	[-2.22]	[-2.23]
Stderet	0.161***	0.161***	0.166***	0.166***	0.152***	0.151***
	[4.76]	[4.72]	[4.20]	[4.16]	[5.19]	[5.13]
Beta	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***
	[-5.55]	[-5.61]	[-4.51]	[-4.58]	[-5.59]	[-5.68]
Returns Skewness	0.000	0.000	0.000	0.000	0.000*	0.000*
	[1.41]	[1.39]	[1.47]	[1.46]	[1.77]	[1.74]
ROA	-0.006***	-0.005***	-0.005***	-0.005***	-0.006***	-0.006***
	[-4.84]	[-4.81]	[-6.98]	[-6.88]	[-4.91]	[-4.87]
Sh Turnover	-0.064***	-0.065***	-0.068***	-0.068***	-0.058***	-0.059***
	[-4.03]	[-4.02]	[-3.85]	[-3.84]	[-4.65]	[-4.65]
Ln RFDLength	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	[-4.53]	[-4.35]	[-4.54]	[-4.15]	[-4.96]	[-4.62]
Zscore	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.85]	[-0.82]	[-0.90]	[-0.88]	[-0.53]	[-0.49]
Lit_Risk KS	-0.006**	-0.007**	-0.006**	-0.006**	-0.007**	-0.007**
	[-2.30]	[-2.33]	[-2.16]	[-2.19]	[-2.39]	[-2.42]

Constant	0.010***	0.009***	0.009***	0.009***	0.009***	0.009***
	[5.26]	[5.14]	[5.11]	[4.80]	[5.47]	[5.22]
Observations	10,876	10,876	10,876	10,876	10,876	10,876
Adjusted R-squared	0.338	0.338	0.359	0.358	0.369	0.368
Model	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy
FE	Industry & Year	Industry & Year	Industry & Year	Industry & Year	Industry & Year	Industry & Year
Cluster	Industry	Industry	Industry	Industry	Industry	Industry

PANEL B: CHANGES IN SPECIFIC CHARACTERISTICS

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Spread[0,3]			Spread[0,7]			Spread[0,60]	
CEO Change*ΔNegative %	-0.000			-0.000			-0.000		
	[-0.03]			[-0.12]			[-0.15]		
ΔNegative %	-0.000			-0.000			-0.000		
	[-0.28]			[-0.30]			[-0.43]		
CEO Change*ΔNet Negative %		0.000			0.000			-0.000	
		[0.16]			[0.03]			[-0.01]	
ΔNet Negative %		-0.000			-0.000			-0.000	
		[-0.03]			[-0.05]			[-0.12]	
CEO Change*ΔUncertainty %			0.000			0.000			0.000
			[1.01]			[0.24]			[0.53]
ΔUncertainty %			-0.000			-0.000			-0.000
			[-0.12]			[-0.53]			[-0.60]
CEO Change	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[0.21]	[0.18]	[0.14]	[0.12]	[0.08]	[0.08]	[0.19]	[0.15]	[0.14]
CEO Female	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.15]	[-0.16]	[-0.15]	[-0.21]	[-0.22]	[-0.22]	[-0.14]	[-0.15]	[-0.15]
Avg Accruals	-0.005***	-0.005***	-0.005***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***
	[-3.99]	[-3.98]	[-3.98]	[-5.05]	[-5.04]	[-5.04]	[-3.25]	[-3.24]	[-3.23]
BTM	0.000	0.000	0.000	0.000	0.000	0.000	0.001**	0.001**	0.001**
	[1.28]	[1.27]	[1.23]	[1.31]	[1.30]	[1.30]	[2.25]	[2.23]	[2.21]
Income	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.58]	[-0.57]	[-0.56]	[-0.40]	[-0.38]	[-0.38]	[-0.21]	[-0.20]	[-0.20]
Leverage	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.75]	[-0.75]	[-0.75]	[-0.43]	[-0.43]	[-0.43]	[-0.08]	[-0.08]	[-0.08]
Size	-0.001*	-0.001*	-0.001**	-0.001**	-0.001**	-0.001**	-0.000**	-0.000**	-0.000**
	[-2.00]	[-1.99]	[-2.01]	[-2.11]	[-2.11]	[-2.12]	[-2.09]	[-2.08]	[-2.07]
Abn_Return	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.003**	-0.003**	-0.003**
	[-1.07]	[-1.10]	[-1.09]	[-0.97]	[-1.00]	[-1.00]	[-2.23]	[-2.25]	[-2.23]
Stderet	0.161***	0.161***	0.161***	0.166***	0.166***	0.166***	0.151***	0.151***	0.151***
	[4.73]	[4.73]	[4.74]	[4.17]	[4.17]	[4.18]	[5.15]	[5.15]	[5.15]

Beta	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***
	[-5.60]	[-5.58]	[-5.63]	[-4.57]	[-4.56]	[-4.60]	[-5.67]	[-5.66]	[-5.67]
Returns Skewness	0.000	0.000	0.000	0.000	0.000	0.000	0.000*	0.000*	0.000*
	[1.40]	[1.40]	[1.39]	[1.47]	[1.47]	[1.46]	[1.76]	[1.76]	[1.76]
ROA	-0.006***	-0.006***	-0.006***	-0.005***	-0.005***	-0.005***	-0.006***	-0.006***	-0.006***
	[-4.82]	[-4.82]	[-4.82]	[-6.96]	[-6.93]	[-6.94]	[-4.90]	[-4.89]	[-4.89]
Sh Turnover	-0.065***	-0.065***	-0.064***	-0.068***	-0.068***	-0.068***	-0.059***	-0.059***	-0.059***
	[-4.03]	[-4.04]	[-4.03]	[-3.88]	[-3.89]	[-3.86]	[-4.67]	[-4.69]	[-4.69]
Ln RFDLength	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	[-4.44]	[-4.45]	[-4.41]	[-4.29]	[-4.30]	[-4.24]	[-4.71]	[-4.72]	[-4.71]
Zscore	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[-0.81]	[-0.82]	[-0.79]	[-0.86]	[-0.87]	[-0.85]	[-0.46]	[-0.47]	[-0.47]
Lit_Risk KS	-0.007**	-0.007**	-0.006**	-0.006**	-0.006**	-0.006**	-0.007**	-0.007**	-0.007**
	[-2.34]	[-2.33]	[-2.32]	[-2.19]	[-2.18]	[-2.16]	[-2.43]	[-2.42]	[-2.42]
Constant	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***	0.009***
	[5.20]	[5.20]	[5.17]	[4.92]	[4.92]	[4.88]	[5.29]	[5.29]	[5.28]
Observations	10,876	10,876	10,876	10,876	10,876	10,876	10,876	10,876	10,876
Adjusted R-squared	0.338	0.338	0.338	0.358	0.358	0.358	0.368	0.368	0.368
Model	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy	Entropy
FE	Industry & Year	Industry & Year	Industry & Year	Industry & Year	Industry & Year	Industry & Year	Industry & Year	Industry & Year	Industry & Year
Cluster	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry

Notes: All variables are defined in Appendix C. Standard errors are clustered by 2-digit SIC code.

*, **, *** Denote statistical significance at 10 percent, 5 percent, and 1 percent levels, respectively (two-tailed tests). Robust T-statistics are shown in parentheses.

This table presents the results of the regression model (2), with entropy balancing. All control variables are levels variables, and the regression includes industry fixed effects and year fixed effects. The dependent variable is the stock price spread relative to the 10-K filing date.

Panel A presents the results of the tests with overall changes in risk factor disclosures. The period for which stock price spread is calculated is [0,3], [0,5] and [0,60] days relative to 10-K filing date in columns (1) & (2), columns (3) & (4) and columns (5) & (6) respectively. The main variable of interest is *CEO Change*Cosine Difference* in columns (1), (3) & (5), and *CEO Change*ΔLn RFDLength* in columns (2), (4), and (6). Panel B presents the results of the changes in specific risk factor disclosure characteristics. The period for which the stock price spread is calculated is [0,3], [0,5] and [0,60] days relative to the 10-K filing date in columns (1) to (3), columns (4) to (6) and columns (7) to (9) respectively. The main variable of interest is *CEO Change*ΔNegative %* in columns (1), (4) & (7), *CEO Change*ΔNet Negative %* in columns (2), (5), and (8), and *CEO Change*ΔUncertainty %* in columns (3), (6) and (9).

Appendix A: Variable Definitions – Essay 1

Variable	Definition	Source
Risk factor disclosure characteristics		
Avg_SentLength	Average words in a sentence of the risk factor disclosure	Calcbench (disclosures)
Unique_Vocab	Number of unique words in the risk factor disclosure belonging to the master dictionary created by Loughran & Mcdonald	Calcbench (disclosures), Loughran and Mcdonald dictionary (Loughran & Mcdonald, 2011)
Type Token Ratio	Ratio of total number of distinct words in a risk factor disclosure (called "types") to total number of words in the same disclosure (called "tokens"). Here, all word forms of the same word are not considered as distinct (e.g., "is", "be", and "are", are the same type, "be").	Calcbench (disclosures)
Litigation risk measure		
Liberal_Court	Judge ideology measure of litigation risk constructed by (Huang et al., 2019) and explained in Section 3.2	Provided by authors of the article
Controls		
Firm_Age	Time elapsed since the firm makes first appearance on Compustat	Compustat
Avg_Accruals	Absolute value of (NI-OANCF)/AT	Compustat
BigN	Dummy which takes value 1 if firm's auditor is a Big N firm, 0 otherwise	Compustat
BTM	Book to market ratio, calculated using SEQ/(PRCC_F*CSHO)	Compustat
Income	IB (i.e., income before extraordinary items)	Compustat
Leverage	Book value of total debt divided by total assets, (DLTT+DD1)/AT, DD1 is taken as 0 wherever missing	Compustat
Size	Natural log of firm's market value, where market value is calculated as PRCC_F*CSHO	Compustat
Loss	Dummy that takes value 1 if IB (i.e., income before extraordinary items) is negative for the firm year, 0 otherwise	Compustat
Abn_Return	Daily abnormal stock returns for the 250 trading day period ending two trading days before the 10-K release, computed using the market model.	CRSP
Stderet	Standard deviation of daily abnormal stock returns for the 250 trading day period ending two trading days before the 10-K release, computed using the market model.	CRSP

Beta	Beta of the firm computed using market model for the 250 trading day period ending two trading days before the 10-K release.	CRSP
Returns Skewness	Skewness of daily returns for the 250 trading day period ending two trading days before the 10-K release	CRSP
ROA	Return on assets, NI/AT	Compustat
Sh_Turn	Average daily share turnover (expressed as a percentage) for the 250 trading day period ending two trading days before the 10-K release, in line with (Campbell et al., 2014)	CRSP
Ln_RFDLength	Natural log of the length of the risk factor disclosure	Calcbench (disclosures)
ZScore	Altman's Z-Score, computed as 1.2*WCAP/AT + 1.4*RE/AT + 3.3*EBIT/AT + 0.6*(PRCC_F*CSHO)/LT + SALE/AT	Compustat
Lit_Risk KS	Litigation risk measure created by (I. Kim & Skinner, 2012)	Compustat, CRSP
Bid-ask spread	Average of daily (Ask-Bid)/(Ask+Bid/2) for [0,5] days relative to 10-K filing date, or [0, 5] days relative to 10-K filing date	CRSP
MD&A disclosure characteristics		
MD&A Avg_SentLength	Average words in a sentence of the Management Discussion and Analysis (MD&A) disclosure	Calcbench (disclosures)
MD&A Unique_Vocab	Number of unique words in the MD&A disclosure belonging to the master dictionary created by Loughran & Mcdonald	Calcbench (disclosures), Loughran and Mcdonald dictionary (Loughran & Mcdonald, 2011)
MD&A Type Token Ratio	Ratio of total number of distinct words in a MD&A disclosure (called "types") to total number of words in the same disclosure (called "tokens"). Here, all word forms of the same word are not considered as distinct (e.g., "is", "be", and "are", are the same type, "be").	Calcbench (disclosures)
Ln_MD&ALength	Natural log of the length of the MD&A disclosure	Calcbench (disclosures)
Partitioning variables		
Negative Cash Flow from Operations	Indicator variable equal to 1 if firm year has negative cash flow from operations and 0 otherwise, where cash flow from operations is the value of OANCF from Compustat	Compustat
Low ROA	Indicator variable equal to 1 if firm year has below median return on assets, where return on assets are calculated as per above definition	Compustat
Fall in Earnings	Indicator variable equal to 1 if the change in earnings, IB, compared to previous year is negative	Compustat
High Litigation Risk (Kim & Skinner)	Indicator variable equal to 1 if firm year has above median value for the litigation risk measure created by (I. Kim & Skinner, 2012)	Compustat, CRSP

High Short Interest	Indicator variable equal to 1 if firm year has above median value for short interest, where short interest is the average value of shares held short over the 12 months ending the month in which fiscal year ends, scaled by shares outstanding at the end of the fiscal year.	Compustat Supplemental Short Interest file
Young Firm	Indicator variable equal to 1 if value of Firm_Age is below the median value for the sample	Compustat
Early Tenure CEO	Indicator variable equal to 1 if CEO's tenure is below median value for the sample	Execucomp
CEO Change	Indicator variable equal to 1 for firm years in which a new CEO took over the role	Execucomp

Alternate Litigation Risk Variables

Lit_Risk KS	Litigation risk measure created by (I. Kim & Skinner, 2012)	Compustat, CRSP
Lawsuit in Industry-Year	Indicator variable taking value 1 if another firm within the same industry was sued in the financial year under consideration, 0 otherwise	Compustat, Stanford Securities Class Action Clearinghouse

Industry Demeaned Dependent Variables

Industry demeaned Avg_SentLength	Industry demeaned value of Avg_SentLength	Calcbench
Industry demeaned Unique_Vocab	Industry demeaned value of Unique_Vocab	Calcbench
Industry demeaned Type Token Ratio	Industry demeaned value of Type Toke Ratio	Calcbench

Appendix B: Examples of Risk Factor Disclosures – Essay 1

Example 1: Excerpts from risk factor disclosure of Hospira Inc for the period ending December 2009 – Below median complexity scores

The Company is increasingly dependent on its outsourcing and third-party provider arrangements.

Hospira is becoming more dependent on its outsourcing arrangements, and if problems were to develop with respect to these arrangements, Hospira's business could be negatively impacted. Hospira is increasing its dependence on third-party providers for certain services, some of which include processes provided off-shore, including certain information technology, research and development, third party manufacturing, and finance and accounting outsourcing arrangements. The failure of these service providers to meet their obligations or the development of significant disagreements or other factors may materially disrupt Hospira's ongoing relationship with these providers or the services they provide could negatively affect operations.

Hospira is subject to the cost-containment efforts of wholesalers, distributors, third-party payors and government organizations.

Hospira relies on drug wholesalers to assist in the distribution of its generic injectable pharmaceutical products. In general, drug wholesalers have been attempting to implement a fee-for-service model for the distribution of such products. While Hospira has business arrangements in place with its major drug wholesalers, if Hospira is required to pay fees not contemplated by its existing arrangements, Hospira will incur additional costs to distribute its products, which may harm Hospira's profitability.

Hospira's products and services are sold to hospitals and alternate site providers, such as clinics, home healthcare providers and long-term care facilities which receive reimbursement for the healthcare services provided to their patients from third-party payors, such as government programs, private insurance plans and managed-care programs. These third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for medical products and services. Levels of reimbursement, if any, may be decreased in the future, and future healthcare reform legislation, regulations or changes to reimbursement policies of third-party payors may otherwise adversely affect the demand for and price levels of Hospira's products, which could have a material adverse effect on Hospira's sales and profitability.

In markets outside the U.S., Hospira's business has experienced downward pressure on product pricing as a result of the concentrated buying power of governments as principal customers and the use of bid-and-tender sales methods whereby Hospira is required to submit a bid for the sale of its products. Hospira's failure to offer acceptable prices to these customers could have a material adverse effect on its sales and profitability in these markets.

If Hospira is unable to obtain or maintain its GPO and IDN pricing agreements, sales of its products could decline.

Many existing and potential customers for Hospira's products have combined to form GPOs, and IDNs in an effort to lower costs. A small number of GPOs influence a majority of sales to Hospira's hospital customers in the U.S. GPOs and IDNs negotiate pricing arrangements with medical supply manufacturers and distributors, and these negotiated prices are made available to a GPO's or an IDN's affiliated hospitals and other members. Failure to negotiate advantageous pricing and purchasing arrangements could cause Hospira to lose market share to its competitors and have a material adverse effect on its sales and profitability.

Hospira has pricing agreements covering certain products with the major GPOs in the U.S., including Amerinet, Inc.; Broadlane Inc.; HealthTrust Purchasing Group LP; MedAssets, Inc.; Novation, LLC; PACT, LLC; and Premier Purchasing Partners, LP. It is important for Hospira to continue to maintain pricing arrangements with major GPOs. In order to maintain these relationships, Hospira must offer a reliable supply of high-quality, regulatory-compliant products. Hospira also needs to maintain a broad product line and be price-competitive. Several GPO contracts are up for renewal or extension each year. Moreover, some of the agreements may be terminated on 60 or 90 days' notice, while others may not be terminated without breach until the end of their contracted term. If Hospira is unable to renew or extend one or more of those contracts, or one or more of the

contracts are terminated, and Hospira cannot replace lost business, Hospira's sales and profitability will decline. There has been consolidation among major GPOs, and further consolidation may occur. The effect of consolidation is uncertain, and consolidation may impair Hospira's ability to contract with GPOs in the future.

The GPOs also have a variety of business relationships with Hospira's competitors and may decide to enter into pricing agreements for, or otherwise prefer, products other than Hospira's. While GPOs negotiate incentives for members to purchase specified products from a given manufacturer or distributor, GPO pricing agreements allow customers to choose between the products covered by the arrangement and another manufacturer's products, whether or not purchased under a negotiated pricing agreement. As a result, Hospira may face competition for its products even within the context of its GPO pricing agreements.

Changes in the buying patterns of Hospira's customers could adversely affect Hospira's operating results.

During 2009, sales through the four largest wholesalers that supply products to many end-users accounted for approximately 42% of Hospira's global net sales. Hospira's profitability may be impacted by changes in the buying patterns of these wholesalers, or any other major distributor, or wholesale customer. Their buying patterns may change as a result of end-use buyer purchasing decisions, end-use customer demand, pricing, or other factors, which could adversely affect Hospira's results of operations.

Hospira and its suppliers and customers are subject to various governmental regulations, and it could be costly to comply with these regulations and to develop compliant products and processes. In addition, failure to comply with these regulations could subject us to sanctions which could adversely affect our business, results of operations and financial condition.

Hospira's products are subject to rigorous regulation by the FDA, and numerous other national, supranational, federal and state governmental authorities. The process of obtaining regulatory approvals to market a drug or medical device, particularly from the FDA and governmental authorities outside the U.S., can be costly and time-consuming, and approvals might not be granted for future products on a timely basis, if at all. To ensure ongoing customer safety, regulatory agencies such as the FDA may re-evaluate their current approval processes and may impose additional requirements. In addition, the FDA and others may impose increased or enhanced regulatory inspections for domestic or foreign plants.

The FDA, along with other regulatory agencies around the world, has been experiencing a backlog of generic drug and medical device applications, which has delayed approvals of new products. Those delays have become longer, and may continue to increase in the future. These delays can result in higher levels of unapproved inventory and increased costs due to excess and obsolescence exposures.

Existing regulations may also delay or prevent generic drug producers such as Hospira from offering certain products, such as biogeneric products in key territories, which could harm Hospira's ability to grow its business. If a clear regulatory pathway for the approval of biogeneric products is not fully developed in the U.S. and other jurisdictions, Hospira may not be able to generate future sales of such products in those jurisdictions and may not realize the anticipated benefits of its investments in the development, manufacture and sale of such products. Delays in receipt of, or failure to obtain, approvals for product candidates could result in delayed realization of product revenues and in substantial additional costs.

Hospira and Hospira's suppliers may not be able to remain in compliance with applicable FDA and other material regulatory requirements once it has obtained clearance or approval for a product. These requirements include, among other things, regulations regarding manufacturing practices, product labeling, advertising and postmarketing reporting, including adverse event reports and field alerts, some of which are related to manufacturing quality concerns. Hospira may be required by regulatory authorities, or determine on its own, to temporarily cease production and sale of certain products to resolve manufacturing and product quality concerns, which would harm Hospira's sales, margins and profitability in the affected periods and may have a material adverse effect on Hospira's business. For information related to the 2009 warning letter received by Hospira and other voluntary recalls and corrective actions in 2009, see the section captioned "Quality Assurance."

Hospira is also subject to various federal, state, and foreign laws pertaining to foreign corrupt practices and healthcare fraud and abuse, including anti-kickback and false claims laws. Violations of these laws are punishable by criminal and/or civil sanctions, including, in some instances, substantial fines, imprisonment and exclusion

from participation in national, federal and state healthcare programs, including Medicare, Medicaid, and Veterans' Administration health programs and health programs outside the U.S. These laws and regulations are broad in scope and are subject to evolving interpretations, which could require Hospira to alter one or more of its sales or marketing practices. In addition, violations of these laws, or allegations of such violations, could disrupt Hospira's business and result in a material adverse effect on Hospira's sales, profitability and financial condition.

For a more detailed listing of the laws and regulations that significantly affect Hospira's business and operations, see the section captioned "Governmental Regulation and Other Matters." Any adverse regulatory action, or action taken by Hospira to maintain appropriate regulatory compliance, with respect to these laws and regulations could disrupt Hospira's business and have a material adverse effect on its sales, profitability and financial condition. Furthermore, an adverse regulatory action with respect to any Hospira product, operating procedure or manufacturing facility could materially harm Hospira's reputation in the marketplace.

Hospira may continue to acquire other businesses and assets, license rights to technologies or products from third parties, form alliances, or dispose of businesses and assets, and any of these actions may not be completed in a timely or cost-effective manner, or at all.

As part of Hospira's business strategy, Hospira may continue to acquire other businesses and assets, license rights to technologies or products from third parties, form alliances, or dispose of businesses and assets, and any of these actions may not be completed in a timely or cost-effective manner, or at all. Hospira also may pursue strategic alliances to expand its product offerings and geographic presence. Hospira may not identify or complete these transactions in a timely manner, on a cost-effective basis, or at all, and may not realize the expected benefits of any acquisition, license arrangement, strategic alliance, or disposition. Other companies, including those with substantially greater resources, may compete with Hospira for opportunities. If Hospira is successful in securing certain opportunities, the products and technologies that Hospira acquires may not be successful or may require significantly greater resources and investments than originally anticipated. Hospira may not be able to integrate acquisitions successfully into its existing business.

To finance acquisitions, Hospira has incurred, and may continue to incur or assume significant debt. This significant indebtedness may require Hospira to dedicate a substantial portion of its cash flow from operations to servicing its debt, thereby reducing the availability of cash flow to fund capital expenditures, to pursue other acquisitions or investments in new technologies, and for general corporate purposes. In addition, this significant indebtedness may increase Hospira's vulnerability to general adverse economic conditions, including increases in interest rates. In addition, this may limit Hospira's flexibility in planning for, or reacting to, changes in or challenges relating to its business and industry. Hospira may incur greater than expected costs in connection with these transactions if it encounters difficulties or issues not known to it at the time of entering into the transaction. In addition, Hospira may enter markets in which it has no or limited prior experience. Hospira could experience negative effects on its reported results of operations from acquisition or disposition-related charges. Any of these negative effects could cause a downgrade of Hospira's credit rating, which would affect Hospira's ability to obtain new financing and negatively impact Hospira's cost of financing and credit.

Example 2: Excerpts from risk factor disclosure of Intersections Inc for the period ending December 2010 – Below median complexity scores

We are dependent upon our consumer products and services for substantially all of our revenue, and market demand for these services could decrease.

Approximately 99% of our revenue in 2009 and 2010 was derived from our consumer products and services, with the balance coming from our other services. We expect to remain dependent on revenue from our consumer products and services for the foreseeable future. Any significant downturn in the demand for these services would materially decrease our revenue.

If we lose our ability to purchase data from any of the three major credit reporting agencies, each of which is a competitor of ours, demand for our services could decrease.

We rely on the three major credit reporting agencies, Equifax, Experian and TransUnion, to provide us with essential data for our consumer identity theft protection and credit management services. Our agreements with Experian and TransUnion may be terminated by them on 30 days and 60 days notice, respectively. The term of our agreement with Equifax expires on December 31, 2011, but will renew for two additional one year terms unless we or Equifax provide notice of non-renewal 30 days prior to expiration. During any renewal term, either

party may terminate the agreement on 90 days prior notice, and the pricing we pay is subject to increase. Each of the three major credit reporting agencies owns its consumer credit data and is a competitor of ours in providing credit information directly to consumers, and may decide to stop supplying data to us. Any interruption, deterioration or termination of our relationship with one or more of the three credit reporting agencies would be disruptive to our business and could cause us to lose subscribers.

Our consumer products and services depend on data and technology from third party suppliers, and any failure of that data or those technologies or their suppliers could harm our products and services and our business.

In addition to the three major credit reporting agencies, we include other data and technology from third party suppliers in our consumer products and services, including public records data, identity theft risk assessments and alerts, anti-virus, anti-key logging and other computer software, mobile data storage technology, and an online privacy protection device. Any defect or failure in this data or technology, or failure of a third party data or technology supplier, could require us to remove the affected data or technology from our products and services, cause us to lose customers or clients, or expose us to liability claims by customers or clients arising out of the failure.

A failure of any of the insurance companies that underwrite the insurance products or related benefits provided as part of our consumer products and services, or refusal by those insurance companies to provide the expected insurance, could harm our business.

Certain of our consumer products and services include or depend on insurance products, or are dependent on group insurance policies under which the customers for our products and services are the insureds. The current and expected economic climate may cause financial instability among one or more of those insurance companies. Any failure of any of those insurance companies, or refusal by them to provide the expected insurance, could require us to remove the affected insurance from our products and services, cause us to lose customers or clients, or expose us to liability claims by our customers or clients.

We may incur substantial marketing expenses as we enter new businesses, develop new products or increase our direct marketing arrangements, which could cause our operating income to decline on a quarterly basis and our stock price to drop.

We are committing significant resources to our strategic effort to market our services to the broader direct-to-consumer marketplace. In addition, as we increase our direct marketing arrangements with new or existing clients, we bear most of the new subscriber marketing costs and pay our client a commission for revenue derived from subscribers. This generally results in higher marketing costs and negative cash flow over the first several months after a program is launched. This could cause our stock price to decline. In addition, we cannot assure you that our investment in the direct-to-consumer business or other new businesses or products or any increase in direct marketing arrangements will be successful in increasing our subscribers or generating future revenue or profits on our projected timeframes or at all, which could have a material adverse effect on our results of operations and financial condition.

If we experience system failures or interruptions in our telecommunications or information technology infrastructure, our revenue could decrease and our reputation could be harmed.

Our operations depend upon our ability to protect our telecommunications and information technology systems against damage or system interruptions from natural disasters, technical failures and other events beyond our control. We receive credit data electronically, and this delivery method is susceptible to damage, delay or inaccuracy. A significant portion of our business involves telephonic customer service as well as mailings, both of which depend upon the data generated from our computer systems. Unanticipated problems with our telecommunications and information technology systems may result in a significant system outage or data loss, which could interrupt our operations. Our infrastructure may also be vulnerable to computer viruses, hackers or other disruptions entering our systems from the credit reporting agencies, our clients and subscribers or other authorized or unauthorized sources.

We and our clients outsource telemarketing to third parties who may take actions that lead to negative publicity and consumer dissatisfaction.

We and our clients solicit some of our subscribers through outbound telemarketing that we outsource to third-party contractors. In outbound telemarketing, the third-party contractors make the initial contact with potential subscribers. We attempt to control the level and quality of the services provided by these third parties through a combination of contractual provisions, monitoring, on-site visits and records audits. In arrangements where we bear the marketing cost, which represented 60% of new subscribers acquired in 2010, approximately

48% of new subscribers were obtained through outbound telemarketing by outsourced vendors. In arrangements where the clients bear the marketing cost, which represented 40% of new subscribers acquired in 2010, approximately 15% of new subscribers were obtained through outbound telemarketing by outsourced vendors. Any quality problems could result in negative publicity and customer dissatisfaction, which could cause us to lose clients and subscribers and decrease our revenue.

We may lose subscribers and customers and significant revenue if our existing products and services become obsolete, or if we fail to introduce new products and services with broad appeal or fail to do so in a timely or cost-effective manner.

Our growth depends upon developing and successfully introducing new products and services that generate client and consumer interest, including new data sources, advanced tools and analytical capabilities, more timely notification of activities and more useable content. We have made or may make significant investments in these new products and services, including development costs and prepayment of royalties and fees to third party providers. Although we have a limited history of developing and introducing products and services outside the areas of identity theft protection and consumer credit management, we are currently developing or introducing new products and services in the area of small business credit information and fraud detection. If we fail to develop, introduce or expand successfully our products and services, our business and prospects will be materially adversely affected.

We may lose subscribers and significant revenue if our subscribers cease to maintain the accounts through which they are billed for our products and services, or our clients change their billing or credit practices or policies.

Most of our subscribers are billed for our products and services through accounts with our clients, such as mortgage and credit card accounts. Market factors such as a high degree of mortgage refinancing may result in cancellation of those accounts, which will result in a loss of subscribers. Client decisions, such as changes in their credit card billing practices or policies, may result in our inability to bill for our products and services, which also may result in a loss of subscribers. These subscriber losses may have a material adverse impact on our revenue.

We may not be able to develop and maintain relationships with third party providers, and failures by those third parties could harm our business and prospects.

Our consumer products and services are substantially dependent on third party data, analytics and technology providers, as well as third party call center and customer service providers. Our failure to develop and maintain these third party relationships could harm our ability to provide those services. Our other consumer products and services are substantially dependent on third party providers, including insurance companies and software distributors. Our other services are dependent on other third party providers, including third party data sources, technology providers and outsourced service centers. Failure of any of the third party providers on which we depend to perform under our agreements with them, or to provide effective and competent services, could cause us to have liability to others or otherwise harm our business and prospects.

Our senior secured credit agreement provides our lenders with a first-priority lien against substantially all of our assets and contains financial covenants and other restrictions on our actions, and it could therefore limit our operational flexibility or otherwise adversely affect our financial condition.

We may fail to comply with the covenants in our credit agreement as a result of, among other things, changes in our results of operations or general economic changes. These covenants may restrict our ability to engage in transactions that would otherwise be in our best interests. Failure to comply with any of the covenants under our credit agreement could result in a default under the facility, which could cause the lenders to accelerate the timing of payments and exercise their lien on substantially all of our assets, which would have a material adverse effect on our business, operations, financial condition and liquidity. In addition, because our credit agreement bears interest at variable interest rates, increases in interest rates would increase our cost of borrowing, resulting in a decline in our net income and cash flow, which could cause the price of our common stock to decline.

We may be unable to meet our future capital requirements to grow our business, which could adversely impact our financial condition and growth strategy.

We may need to raise additional funds in the future in order to operate and expand our business. There can be no assurance that additional funds will be available on terms favorable to us, or at all. Our inability to obtain additional financing could have a material adverse effect on our financial condition.

We depend on key members of our management and marketing personnel.

If one or more of these individuals, particularly our chairman and chief executive officer, were unable or unwilling to continue in their present positions, our business could be materially adversely affected. In addition, we do not maintain key person life insurance on our senior management. We also believe that our future success will depend, in part, on our ability to attract, retain and motivate skilled managerial, marketing and other personnel.

If we determine in the future that we are required to establish reserves or we incur liabilities for any litigation or governmental proceedings that has been or may be brought against us, our results of operations, cash flow and financial condition could be materially and adversely affected.

We have not established reserves for any of the legal or governmental proceedings in which we are currently involved and we are unable to estimate at this time the amount of charges, if any, that may be required to provide reserves for these matters in the future. We may determine in the future that a reserve or a charge for all or a portion of any of our legal proceedings is required, including charges related to legal fees. In addition, we may be required to record an additional charge if we incur liabilities in excess of reserves that we have previously recorded. Such charges, particularly in the event we may be found liable in a large class-action lawsuit, could be significant and could materially and adversely affect our results of operations, cash flow and financial condition and result in a significant reduction in the value of our shares of common stock.

Example 3: Excerpts from risk factor disclosure of Starbucks Corp for the period ending September 2018 – Above median complexity scores

You should carefully consider the risks described below. If any of the risks and uncertainties described in the cautionary factors described below actually occurs, our business, financial condition and results of operations, and the trading price of our common stock could be materially and adversely affected. Moreover, we operate in an increasingly competitive and rapidly changing environment. New factors emerge from time to time and it is not possible to predict the impact of all these factors on our business, financial condition or results of operations.

- ***Economic conditions in the U.S. and international markets could adversely affect our business and financial results.***

As a retailer that is dependent upon consumer discretionary spending, our results of operations are sensitive to changes in or uncertainty about macro-economic conditions. Our customers may have less money for discretionary purchases and may stop or reduce their purchases of our products or trade down to Starbucks or competitors' lower priced products as a result of job losses, foreclosures, bankruptcies, increased fuel and energy costs, higher interest rates, inflation, higher taxes, reduced access to credit, economic uncertainty and potential negative impacts relating to federal economic policy changes and recent international trade disputes. These factors may also result in a general downturn in the restaurant industry. Decreases in customer traffic and/or average value per transaction will negatively impact our financial performance as reduced revenues without a corresponding decrease in expenses result in sales de-leveraging, which creates downward pressure on margins and also negatively impacts comparable store sales, net revenues, operating income and earnings per share. There is also a risk that if negative economic conditions or uncertainty persist for a long period of time or worsen, consumers may make long-lasting changes to their discretionary purchasing behavior, including less frequent discretionary purchases on a more permanent basis.

- ***Our success depends substantially on the value of our brands and failure to preserve their value, either through our actions or those of our business partners, could have a negative impact on our financial results.***

We believe we have built an excellent reputation globally for the quality of our products, for delivery of a consistently positive consumer experience and for our global social impact programs. The Starbucks brand is recognized throughout the world and we have received high ratings in global brand value studies. To be successful in the future, particularly outside of the U.S., where the Starbucks brand and our other brands are less well-known, we believe we must preserve, grow and leverage the value of our brands across all sales channels. Brand value is based in part on consumer perceptions on a variety of subjective qualities.

Additionally, our business strategy, including our plans for new stores, branded products and other initiatives, relies significantly on a variety of business partners, including licensee and joint venture relationships, particularly in our international markets, and third-party manufacturers, distributors and retailers, particularly for our entire global Channel Development business. Licensees, retailers and foodservice operators are often authorized to use our logos and provide branded food, beverage and other products directly to customers. We provide training and

support to, and monitor the operations of, certain of these business partners, but the product quality and service they deliver may be diminished by any number of factors beyond our control, including financial pressures they may face. We believe customers expect the same quality of products and service from our licensed-store operators as they do from us and we strive to ensure customers receive the same quality of products and service experience whether they visit a company-operated store or a licensed store. We also source our food, beverage and other products from a wide variety of domestic and international business partners in our supply chain operations, and in certain cases such products are produced or sourced by our licensees directly. And although foodservice operators are authorized to use our logos and provide branded products as part of their foodservice business, we do not monitor the quality of non-Starbucks products served in those locations. Additionally, inconsistent uses of our brand and other of our intellectual property assets, as well as failure to protect our intellectual property, including from unauthorized uses of our brand or other of our intellectual property assets, can erode consumer trust and our brand value and have a material negative impact on our financial results.

Business incidents, whether isolated or recurring and whether originating from us or our business partners, that erode consumer trust, such as actual or perceived breaches of privacy or violations of domestic or international privacy laws, contaminated food, product recalls, store employees or other food handlers infected with communicable diseases or other potential incidents discussed in this risk factors section, particularly if the incidents receive considerable publicity, including rapidly through social or digital media (including for malicious reasons), or result in litigation, and failure to respond appropriately to these incidents (or being perceived to not have reacted appropriately), can significantly reduce brand value, trigger boycotts of our stores or products or demonstrations at our stores, result in civil and criminal liability and have a negative impact on our financial results. Consumer demand for our products and our brand equity could diminish significantly if we, our employees or our licensees or other business partners fail to preserve the quality of our products, act or are perceived to act in an unethical, illegal, racially-biased or unequal treatment basis or socially irresponsible manner, including with respect to the sourcing, content or sale of our products, service and treatment at Starbucks stores or the use of customer data for general or direct marketing or other purposes, fail to comply with laws and regulations, publicly take controversial positions or actions or fail to deliver a consistently positive consumer experience in each of our markets, including by failing to invest in the right balance of wages and benefits to attract and retain employees that represent the brand well.

- ***Incidents involving food or beverage-borne illnesses, tampering, adulteration, contamination or mislabeling, whether or not accurate, as well as adverse public or medical opinions about the health effects of consuming our products, could harm our business.***

Instances or reports, whether true or not, of unclean water supply or food-safety issues, such as food or beverage-borne illnesses, tampering, adulteration, contamination or mislabeling, either during growing, manufacturing, packaging, storing or preparation, have in the past severely injured the reputations of companies in the food and beverage processing, grocery and quick-service restaurant sectors and could affect us as well. Any report linking us to the use of unclean water, food or beverage-borne illnesses, tampering, adulteration, contamination, mislabeling or other food or beverage-safety issues could damage our brand value and severely hurt sales of our food and beverage products and possibly lead to product liability claims, litigation (including class actions) or damages. Clean water is critical to the preparation of coffee, tea and other beverages, as well as ice for our cold beverages, and our ability to ensure a clean water and ice supply to our stores can be limited, particularly in some international locations. We are also continuing to incorporate more products in our food and beverage lineup that require freezing or refrigeration, including produce (such as fruits and vegetables in our salads and juices), dairy products (such as milk and cheeses), non-dairy alternative products (such as soymilk and almondmilk), ice for our cold drinks and meats. We also face risk by relying on third-party food suppliers to provide and transport ingredients and finished products to our stores. We monitor the operations of certain of these business partners, but the product quality and service they deliver may be diminished by any number of factors beyond our control, which make it more difficult to detect contamination or other defect in these products. Additionally, we are evolving our product lineup to include more local or smaller suppliers for some of our products who may not have as rigorous quality and safety systems and protocols as larger or more national suppliers. If customers become ill from food or beverage-borne illnesses, tampering, adulteration, contamination, mislabeling or other food or beverage-safety issues, we could be forced to temporarily close some stores and/or supply chain facilities, as well as recall products. In addition, instances of food or beverage-safety issues, even those involving solely the restaurants or stores of competitors or of suppliers or distributors (regardless of whether we use or have used those suppliers or distributors), could, by resulting in negative publicity about us or the foodservice industry in general, adversely affect our sales on a regional or global basis. A decrease in customer traffic as a result of food-safety concerns or negative publicity, or as a result of a temporary closure of any of our stores, product recalls or food or beverage-safety claims or litigation, could materially harm our business and results of operations.

Some of our products contain caffeine, dairy products, sugar and other compounds and allergens, the health effects of which are the subject of public and regulatory scrutiny, including the suggestion that excessive consumption of caffeine, dairy products, sugar and other compounds can lead to a variety of adverse health effects. Particularly in the U.S., there is increasing consumer awareness of health risks, including obesity, due in part to increased publicity and attention from health organizations, as well as increased consumer litigation based on alleged adverse health impacts of consumption of various food and beverage products. While we have a variety of beverage and food items, including items that are coffee-free and have reduced calories, an unfavorable report on the health effects of caffeine or other compounds present in our products, whether accurate or not, imposition of additional taxes on certain types of beverages, or negative publicity or litigation arising from certain health risks could significantly reduce the demand for our beverages and food products and could materially harm our business and results of operations.

- ***The unauthorized access, use, theft or destruction of customer or employee personal, financial or other data or of Starbucks proprietary or confidential information that is stored in our information systems or by third parties on our behalf could impact our reputation and brand and expose us to potential liability and loss of revenues.***

Many of our information technology systems, such as those we use for our point-of-sale, web and mobile platforms, including online and mobile payment systems, delivery services and rewards programs, and for administrative functions, including human resources, payroll, accounting and internal and external communications, as well as the information technology systems of our licensees, franchisees and other third-party business partners and service providers, whether cloud-based or hosted in proprietary servers, contain personal, financial or other information that is entrusted to us by our customers and employees. Many of our information technology systems also contain Starbucks proprietary and other confidential information related to our business, such as business plans, product development initiatives and designs. Similar to many other retail companies and because of the prominence of our brand, we are consistently subject to attempts to compromise our information technology systems. To the extent we or a third party were to experience a material breach of our or such third party's information technology systems that result in the unauthorized access, theft, use, destruction or other compromises of customers' or employees' data or confidential information of the Company stored in such systems, including through cyber-attacks or other external or internal methods, it could result in a material loss of revenues from the potential adverse impact to our reputation and brand, our ability to retain or attract new customers and the potential disruption to our business and plans. Such security breaches also could result in a violation of applicable U.S. and international privacy and other laws, and subject us to private consumer, business partner, or securities litigation and governmental investigations and proceedings, any of which could result in our exposure to material civil or criminal liability. For example, the European Union adopted a new regulation that became effective in May 2018, called the General Data Protection Regulation ("GDPR"), which requires companies to meet new requirements regarding the handling of personal data, including its use, protection and transfer and the ability of persons whose data is stored to correct or delete such data about themselves. Failure to meet the GDPR requirements could result in penalties of up to 4% of annual worldwide revenue. The GDPR also confers a private right of action on certain individuals and associations. Our reputation and brand and our ability to attract new customers could also be adversely impacted if we fail, or are perceived to have failed, to properly respond to these incidents. Such failure to properly respond could also result in similar exposure to liability.

Compliance with the GDPR and other applicable international and U.S. privacy, cybersecurity and related laws can be costly and time-consuming. Significant capital investments and other expenditures could also be required to remedy cybersecurity problems and prevent future breaches, including costs associated with additional security technologies, personnel, experts and credit monitoring services for those whose data has been breached. These costs, which could be material, could adversely impact our results of operations in the period in which they are incurred and may not meaningfully limit the success of future attempts to breach our information technology systems.

Media or other reports of existing or perceived security vulnerabilities in our systems or those of our third-party business partners or service providers can also adversely impact our brand and reputation and materially impact our business, even if no breach has been attempted or has occurred. Additionally, the techniques and sophistication used to conduct cyber-attacks and breaches of information technology systems, as well as the sources and targets of these attacks, change frequently and are often not recognized until such attacks are launched or have been in place for a period of time. We continue to make significant investments in technology, third-party services and personnel to develop and implement systems and processes that are designed to anticipate cyber-attacks and to prevent or minimize breaches of our information technology systems or data loss, but these security measures cannot provide assurance that we will be successful in preventing such breaches or data loss.

- ***We rely heavily on information technology in our operations and growth initiatives, and any material failure, inadequacy, interruption or security failure of that technology could harm our ability to effectively operate and grow our business and could adversely affect our financial results.***

We rely heavily on information technology systems across our operations, including for administrative functions, point-of-sale processing and payment in our stores and online, management of our supply chain, Starbucks Cards, online business, delivery services, mobile technology, including mobile payments and ordering apps, reloads and loyalty functionality and various other processes and transactions, and many of these systems are interdependent on one another for their functionality. Additionally, the success of several of our initiatives to drive growth, including our priority to increase digital relationships with our customers to drive incremental traffic and spend, is highly dependent on our technology systems. Our ability to effectively manage our business, launch digital and other initiatives, and coordinate the production, distribution, administration and sale of our products depends significantly on the reliability, integrity and capacity of these systems. We also rely on third-party providers and platforms for some of these information technology systems and support. Additionally, our systems hardware, software and services provided by third-party service providers are not fully redundant within a market or across our markets. Although we have operational safeguards in place, they may not be effective in preventing the failure of these systems or platforms to operate effectively and be available. Such failures may be caused by various factors, including power outages, catastrophic events, physical theft, computer and network failures, inadequate or ineffective redundancy, problems with transitioning to upgraded or replacement systems or platforms, flaws in third-party software or services, errors or improper use by our employees or third party service providers, or a breach in the security of these systems or platforms, including through cyber-attacks such as those that result in the blockage of our or our third-party business partners' or service providers' systems and platforms and those discussed in more detail in this risk factors section. If our incident response, disaster recovery and business continuity plans do not resolve these issues in an effective manner they could result in an interruption in our operations and could cause material negative impacts to our product availability and sales, the efficiency of our operations and our financial results. In addition, remediation of any problems with our systems could result in significant, unplanned expenses.

Example 4: Excerpts from risk factor disclosure of Omega Protein Corp Inc. for the period ending December 2010 – Above median complexity scores

Fluctuation in the "total yield" derived from Omega Protein's fish catch could impact the Company's ability to operate profitably. The "total yield," or the percentage of fish meal, fish oil and fish solubles products derived from the menhaden fish has fluctuated over the years and from month to month due to natural conditions relating to fish biology over which Omega Protein has no control. For example, Omega Protein's total yield for the 2010 fishing season was 7% lower compared to the average total yield the previous five fishing seasons. The Company believes that the causes of lower total yields relate to fish diet, weather and water temperature but such causes are not generally well understood. In addition, as a result of the Gulf of Mexico oil spill disaster, a greater percentage than normal of Omega Protein's 2010 fish catch was harvested at its Reedville, Virginia facility which typically has lower total yields as compared to the yields from Omega Protein's Gulf of Mexico facilities. Gulf of Mexico total yields were consistent with the previous five fishing seasons while Atlantic yields were approximately 13% lower as compared to the average total yield of the previous five fishing seasons. Poor total yields result in increased per unit inventory costs and fewer volumes available for future sale and, as a result, have at times materially impacted the amount of products that Omega Protein has been able to produce from its available fish catch. It is possible that total yields in the future could adversely impact the Company's ability to operate profitably.

Laws or regulations that restrict or prohibit menhaden or purse seine fishing operations, or the manufacture, sale or distribution of menhaden products, could adversely affect Omega Protein's ability to operate. The adoption of new laws or regulations at federal, regional, state or local levels that restrict or prohibit menhaden or purse seine fishing operations, or the manufacture, sale or distribution of menhaden products, or stricter interpretations of existing laws or regulations, could materially adversely affect Omega Protein's business, results of operations and financial condition. In addition, the impact of a violation by Omega Protein of federal, regional, state or local law or regulation relating to its fishing operations, the protection of the environment or the health and safety of its employees could have a material adverse affect on the Company's business, financial condition, or results of operation.

One example of potentially restrictive regulation is an addendum to a fisheries management plan recommended by a regional regulatory commission, the Atlantic States Marine Fisheries Commission ("ASMFC"), in August 2005. The Commonwealth of Virginia has declined to adopt the ASMFC's recommended plan but has instead adopted its own restrictions whereby Omega Protein's Chesapeake Bay menhaden harvest

are capped for a five year period at 109,020 metric tons per year. The Virginia restrictions also allow for a credit whereby any under-harvest in a particular year below the 109,020 metric ton cap would be added to increase the cap for the following year, up to a maximum of 122,740 metric tons per year. Omega Protein supported Virginia's proposal and voluntarily complied with its limitations in 2006 and subsequently thereafter after the cap was formally approved. This restriction had no effect on the Company's Chesapeake Bay harvest in 2007, 2008, 2009 and 2010 and is not expected to have a material adverse effect on the Chesapeake Bay harvest in 2011. As a result of Omega Protein's 2010 Chesapeake Bay underharvest, the 2011 Chesapeake Bay catch limit will be 122,740 metric tons. The ASMFC and Virginia have recently extended the cap for another three year period so that it now expires in 2013. See "Items 1 and 2 Business and Properties—Regulation".

Another example is regulations adopted by the Texas Parks and Wildlife Commission related to the menhaden reduction fishery in Texas waters which limits the Total Allowable Catch ("TAC") to 31.5 million pounds annually. The regulations also allow for a 10% underage or overage in each year which is credited or deducted, as applicable, to the TAC in the following year.

Another example is two bills that would have banned commercial menhaden fishing introduced in October 2007 in the U.S. House of Representatives (H.R. 3840 and H.R. 3841) by two congressmen representing portions of New Jersey and Maryland, areas where Omega Protein has no operations. The bills were never moved out of committee. Another bill introduced in the U.S. Senate in October 2009 (S. 1816) would have placed a moratorium on menhaden fishing on the Atlantic Coast. This moratorium provision was later removed from the proposed bill. In the 2011 session of the Virginia legislature, a House bill was introduced that would have mandated a reduction in menhaden reduction fishing in Virginia waters by 20% each year, ending in a complete moratorium after five years. The bill was never moved out of committee.

Another example is a bill introduced in February 2011 in the Maryland House of Delegates (House Bill 1142) which would prohibit the manufacture, sale or distribution in the State of Maryland of products obtained from reduction of Atlantic menhaden. The Company is unable to predict the outcome of this bill.

The enactment of these bills described above, or any restrictions similar to those described in these bills, could have a material adverse effect on the Company's business, results of operations or financial condition.

Worldwide supply and demand relationships, which are beyond the Company's control, influence the prices that the Company receives for many of its products and may from time to time result in low prices for many of the Company's products. Prices for many of the Company's products are subject to, or influenced by, worldwide supply and demand relationships over which the Company has no control and which tend to fluctuate to a significant extent over the course of a year and from year to year. For example, during 2008, Omega Protein experienced fish oil price increases of approximately 73.4% when compared to 2007. Beginning in the third quarter of 2008, pricing in the agricultural commodity markets began to decrease. Spot fish oil and fish meal prices have followed these general trends by decreasing during the second half of 2008 and throughout 2009. During 2009, Omega Protein's fish oil prices declined approximately 35.1% as compared to 2008. During 2010, Omega Protein's fish meal prices increased approximately 40.2% as compared to 2009 due in part to the global tightening of fish meal availability. The factors that influence these supply and demand relationships are world supplies of fish meal made from other fish species, animal proteins and fats, palm oil, rapeseed oil, soy meal and oil, and other edible oils.

New laws or regulation regarding contaminants in fish oil or fish meal may increase Omega Protein's cost of production or cause Omega Protein to lose business. It is possible that future enactment of increasingly stringent regulations regarding contaminants in fish meal or fish oil by foreign countries or the United States may adversely affect the Company's business, results of operations and financial condition. More stringent regulations could result in: (i) Omega Protein's incurrence of additional capital expenditures on contaminant reduction technology in order to meet the requirements of those jurisdictions, and possibly higher production costs for Omega Protein's products, or (ii) Omega Protein's withdrawal from marketing its products in those jurisdictions.

Omega Protein's fish catch may be impacted by restrictions on its spotter aircraft. If Omega Protein's spotter aircraft are prohibited or restricted from operating in their normal manner during the Omega Protein's fishing season, the Company's business, results of operations and financial condition could be adversely affected. For example, as a direct result of the September 11, 2001 terrorist attacks, the Secretary of Transportation issued a federal ground stop order that grounded certain aircraft (including Omega Protein's fish-spotting aircraft) for approximately nine days. This loss of spotter aircraft coverage severely hampered Omega Protein's ability to locate menhaden fish during this nine-day period and thereby reduced its amount of saleable product.

Unfavorable publicity or consumer perception of Cyvex's products could cause fluctuations in its operating results and could have a material adverse effect on its reputation, the demand for its products, and its ability to generate revenues. The Company is dependent upon consumer perception of the safety and quality of Cyvex's products, as well as similar products distributed by other companies. Consumer perception of

products can be significantly influenced by scientific research or findings, national media attention, and other publicity about product use. A product may be received favorably, resulting in high sales associated with that product that may not be sustainable as consumer preferences change. Future scientific research or publicity could be unfavorable to Cyvex's industry or any of its particular products and may not be consistent with earlier favorable research or publicity. Adverse publicity in the form of published scientific research or otherwise, whether or not accurate, that associates consumption of our products or any other similar products with illness or other adverse effects, that questions the benefits of Cyvex products or similar products, or that claims that such products are ineffective could have a material adverse effect on our reputation, the demand for Cyvex products, and its ability to generate revenues.

Compliance with new and existing governmental regulations could increase the Company's costs significantly and adversely affect Cyvex results of operations. The processing, formulation, manufacturing, packaging, labeling, advertising, and distribution of Cyvex products are subject to federal laws and regulation by one or more federal agencies, including the FDA, FTC, the Consumer Product Safety Commission, the United States Department of Agriculture, and the Environmental Protection Agency. These activities are also regulated by various state, local, and international laws and agencies of the states and localities in which our products are sold. Government regulations may prevent or delay the introduction, or require the reformulation, or require the discontinuance of Cyvex products, which could result in lost revenues and increased costs to us. For instance, the FDA regulates, among other things, the composition, safety, labeling, and marketing of dietary supplements (including vitamins, minerals, herbs, and other dietary ingredients for human use). The FDA may not accept the evidence of safety for any new dietary ingredient that Cyvex may wish to market, may determine that a particular dietary supplement or ingredient presents an unacceptable health risk, and may determine that a particular claim or statement of nutritional value that we use to support the marketing of a dietary supplement is an impermissible drug claim, the claim is not substantiated, or is an unauthorized version of a "health claim." Any of these actions could prevent Cyvex from marketing particular dietary supplement ingredients or making certain claims or statements with respect to those products. The FDA could also require Cyvex to remove a particular product from the market. Any future recall or removal would result in additional costs to the Company, including lost revenues from any products that Cyvex is required to remove from the market. Any product recalls or removals could also lead to liability, substantial costs, and reduced growth prospects.

Additional or more stringent regulations of dietary supplements and other products have been considered from time to time. These developments could require reformulation of some products to meet new standards, recalls or discontinuance of some products not able to be reformulated, additional record-keeping requirements, increased documentation of the properties of some products, additional or different labeling, additional scientific substantiation, adverse event reporting, or other new requirements. Any of these developments could increase our costs significantly. We may not be able to comply with the new rules without incurring additional expenses, which could be significant.

Appendix C: Variable Definitions – Essay 2

Variable	Description	Source
Risk Factor Disclosure Characteristics		
Cosine Difference	One minus *Cosine Similarity*, where *Cosine Similarity* is a measure of similarity in the text of two disclosures, calculated by converting the text of two documents into two vectors and then computing the cosine of the angle between the two vectors. The two documents here are risk factor disclosure of company *i* in year *t*, and risk factor disclosure of company *i* in year *t-1*.	Calcbench (disclosures)
ΔLn RFDLength	Natural log of the length of the risk factor disclosure, calculated as a change variable in comparison with the previous year	Calcbench (disclosures)
ΔNegative %	Negative tone, computed by counting words from the negative word list of LM dictionary, scaled by total word count and calculated as a change variable in comparison with the previous year	Calcbench (disclosures), Loughran and Mcdonald dictionary (Loughran & Mcdonald, 2011)
ΔNet Negative %	Net negative tone, computed by counting words from the negative word list of LM dictionary and subtracting words from the positive word list of LM dictionary, scaled by total word count and calculated as a change variable in comparison with the previous year	Calcbench (disclosures), Loughran and Mcdonald dictionary (Loughran & Mcdonald, 2011)
ΔUncertainty %	Uncertain tone, computed by counting words from the uncertain word list of LM dictionary, scaled by total word count and calculated as a change variable in comparison with the previous year	Calcbench (disclosures), Loughran and Mcdonald dictionary (Loughran & Mcdonald, 2011)
Independent variables		
CEO Change	Indicator variable taking value 1 in a year in which a new CEO is appointed, and 0 otherwise	Execucomp
CEO Female	Indicator variable taking value 1 if the CEO is a female, and 0 otherwise	Execucomp
ΔAvg Accruals	Absolute value of (NI-OANCF)/AT, calculated as a change variable in comparison with the previous year	Compustat
ΔBTM	Book-to-market ratio, calculated using SEQ/(PRCC_F*CSHO), calculated as a change variable in comparison with the previous year	Compustat
ΔIncome	IB (i.e., income before extraordinary items), calculated as a change variable in comparison with the previous year	Compustat
ΔLeverage	Book value of total debt divided by total assets, (DLTT+DD1)/AT, DD1 is taken as 0 wherever missing, calculated as a change variable in comparison with the previous year	Compustat
ΔSize	Natural log of firm's market value, where market value is calculated as PRCC_F*CSHO, calculated as a change variable in comparison with the previous year	Compustat

ΔAbn_Return	Daily abnormal stock returns for the 250 trading day period ending two trading days before the 10-K release, computed using the market model, calculated as a change variable in comparison with the previous year	CRSP
ΔStderet	Standard deviation of daily abnormal stock returns for the 250 trading day period ending two trading days before the 10-K release, computed using the market model, calculated as a change variable in comparison with the previous year	CRSP
ΔBeta	Beta of the firm computed using market model for the 250 trading day period ending two trading days before the 10-K release, calculated as a change variable in comparison with the previous year	CRSP
ΔReturns Skewness	Skewness of daily returns for the 250 trading day period ending two trading days before the 10-K release, calculated as a change variable in comparison with the previous year	CRSP
ΔROA	Return on assets, NI/AT, calculated as a change variable in comparison with the previous year	Compustat
ΔSh Turnover	Average daily share turnover (expressed as a percentage) for the 250 trading day period ending two trading days before the 10-K release, in line with (Campbell et al., 2014), calculated as a change variable in comparison with the previous year	CRSP
ΔZscore	Altman's Z-Score, computed as 1.2*WCAP/AT + 1.4*RE/AT + 3.3*EBIT/AT + 0.6*(PRCC_F*CSHO)/LT + SALE/AT, calculated as a change variable in comparison with previous year	Compustat
ΔLit_Risk KS	Litigation risk measure created by (I. Kim & Skinner, 2012), calculated as a change variable in comparison with the previous year	Compustat, CRSP
MDA Characteristics		
MDA Cosine Difference	Cosine Difference calculated for Management Discussion and Analysis section	Calcbench (disclosures)
ΔLn MDALength	Natural log of the length of the Management Discussion and Analysis section, calculated as a change variable in comparison with the previous year	Calcbench (disclosures)
Other variables		
CFO Change	Indicator variable taking value 1 in a year in which a new CFO is appointed, and 0 otherwise	Execucomp
CFO Female	Indicator variable taking value 1 if the CFO is a female, and 0 otherwise	Execucomp
CEO ShrOwnDecile	Decile of CEO share ownership, where CEO share ownership is the variable SHROWN_TOT_PCT	Execucomp
Liberal Court	Judge ideology measure of litigation risk constructed by (Huang et al., 2019) and explained in Section 3.2	Provided by the authors of the article

Kim & Skinner (2012) Measure	Litigation risk measure created by (I. Kim & Skinner, 2012)	Compustat, CRSP
Spread[0,3]	Average of daily (Ask-Bid)/(Ask+Bid/2) for [0, 3] days relative to 10-K filing date	CRSP
Spread[0,7]	Average of daily (Ask-Bid)/(Ask+Bid/2) for [0, 7] days relative to 10-K filing date	CRSP
Spread[0,60]	Average of daily (Ask-Bid)/(Ask+Bid/2) for [0, 60] days relative to 10-K filing date	CRSP

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