INFORMATION OVERLOAD: SMALL DOLLAR AMOUNT DISCLOSURES IN ANNUAL REPORTS

by

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(Under the Direction of John L. Campbell)

ABSTRACT

Firms are not required to disclose immaterial information (i.e., information that would fail to change the mind of a current or prospective stakeholder). Nevertheless, regulators have recently called attention to high levels of immaterial disclosure in firms' annual reports, and express concern that such disclosure makes it difficult for investors to identify and respond to information that is relevant for their decision-making. I examine the determinants of quantitative immaterial disclosure in annual reports and provide evidence that the level of immaterial disclosure is associated with periods of macroeconomic uncertainty and related regulatory changes; firm-level litigation risk; and manager-level risk-aversion. Furthermore, I do not find evidence that managers disclose immaterial information when they have greater incentive to obfuscate (i.e., when earnings quality is low). Finally, I find some evidence that immaterial disclosure is associated with negative capital market consequences, such as higher stock return volatility and bid-ask spread. This evidence provides some support for regulators' concerns that high levels of immaterial disclosure are difficult for investors to process. Overall, these results imply that regulators might be able to reduce immaterial disclosure by (1) reducing 'one-size-

fits-all' disclosure regulations, and (2) providing more legal (i.e., safe harbor) protection for firms and managers as they make decisions about disclosure materiality.

INDEX WORDS: Materiality; disclosure; annual report disclosure; information overload; litigation risk

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DEDICATION

I dedicate this to my husband, Joey. I couldn't have done this without your continuous love and support.

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CHAPTER 1

INTRODUCTION

The Securities Exchange Commission (SEC) and the Financial Accounting Standards Board (FASB) have recently expressed concern over "disclosure overload," or the concern that the sheer volume of disclosure in annual reports makes it difficult for investors to identify and price relevant information (White 2013). Both the SEC and FASB attribute "disclosure overload" in part to the level of *immaterial* disclosure in annual reports (i.e., information that would fail to change the mind of a current or prospective stakeholder). Regulators specifically worry that "high levels of immaterial disclosure can obscure important information" in annual reports (SEC 2016, p. 14).[1] Neither the SEC nor the FASB require the disclosure of immaterial information, a fact emphasized in recent projects (FASB 2015a; SEC 2017). However, empirical evidence is consistent with regulators' concerns, as the level of immaterial disclosure has dramatically increased over the past two decades (see Section 5.2 and Figure 1 for a discussion of this trend).

Academic research argues that managers disclose information when the benefits of disclosure outweigh the costs (Healy and Palepu 2001; Beyer, Cohen, Lys, and Walther 2010). The *benefits* of immaterial disclosure are expected to be low, relative to the benefits of material disclosure (i.e., the FASB considers immaterial disclosure "too small to make a difference to an investor"; FASB 2018). However, as long as financial statement users are able to disregard immaterial disclosure, the costs of these disclosures should also be low. Because the benefits and

[1] The FASB has expressed similar concern about immaterial disclosure (e.g., Seidman 2012; FASB 2014). Accordingly, both the SEC and FASB have projects intended to reduce the prevalence of immaterial disclosures in annual reports.

costs of immaterial disclosure are expected to be low, it may be that costs related to *non*disclosure drive the decision to disclose immaterial information. Understanding the factors that contribute to managers' decision to provide immaterial disclosure is an important step towards regulators' goal of reducing immaterial information in annual reports, and ultimately of improving the effectiveness of mandatory disclosures (i.e., the ability of disclosures to help stakeholders assess "the amount, timing, and uncertainty of future net cash inflows"; FASB 2010, OB3).

I examine whether immaterial disclosure is associated with macroeconomic-, firm-, and manager-level characteristics that might drive the disclosure decision. Specifically, I focus on three research questions. First, is the level of immaterial disclosure in the annual report associated with periods of macroeconomic uncertainty and related regulatory changes? Second, is the level of immaterial disclosure associated with firm-level litigation risk and earnings quality? Finally, is the level of immaterial disclosure associated with manager-level risk-aversion? In additional analysis, I also examine whether immaterial disclosure is associated with negative capital market outcomes.

These questions are of interest not only to regulators and standard setters, but also to academic research. Prior literature focuses largely on the readability of *qualitative* (i.e., textual) annual report disclosures and the association with investors' ability to process the disclosures (e.g., You and Zhang 2009; Miller 2010; Lehavy, Li, and Merkley 2011). In contrast, I focus on *quantitative* disclosure and, in so doing, address another important determinant of disclosure effectiveness: materiality.[2] Furthermore, regulators cite a high level of immaterial disclosure in annual reports, but no prior studies quantify the extent of immaterial disclosure for a large cross-

[2] Materiality applies to both quantitative and qualitative disclosures. As it is difficult to systematically and objectively assess the materiality of qualitative disclosures, I focus explicitly on quantitative (i.e., dollar amount) disclosures.

section of firms. My sample of 45,000 annual reports filed from 1998 to 2015 provides insight into the prevalence of immaterial disclosure and how this type of disclosure has evolved over time.

To answer my research questions, I use Python to extract all dollar amounts disclosed in firms' Form 10-K annual reports. I determine the materiality of each dollar amount by comparing it to a materiality threshold based on those commonly used by audit firms (i.e., 0.5% of total assets, 5% of the absolute value of net income, and 1.0% of sales; Eilifsen and Messier 2015). I classify dollar amounts *below* each threshold as immaterial. For each threshold, I create two measures of immaterial disclosure: (1) the natural log of the number of immaterial dollar amounts and (2) the percentage of immaterial dollar amounts relative to total dollar amounts.

I first provide descriptive evidence on several annual report disclosure attributes over my sample period. Figure 1 shows an increase in the number of words in annual reports, as well as in the number of material and immaterial dollar amounts over the sample period, with larger increases following the 2002 Sarbanes-Oxley Act (SOX) and during the recent financial crisis (2008–2009). While the number of words in annual reports increased by 64% during the sample period, the number of material dollar amounts increased by 79% and the number of *immaterial* dollar amounts increased by 134%. This significant increase in immaterial disclosure supports regulators' concerns about the prevalence of this disclosure in annual reports.

My first research question focuses on the effect of macroeconomic uncertainty on immaterial disclosure. During periods of uncertainty, it is likely that investors' materiality thresholds are lower (i.e., investors demand higher levels of disclosure during periods of uncertainty). Relatedly, regulators often increase disclosure requirements following major economic events (for example, after the dot-com bubble burst and several high profile fraud

cases, SOX mandated that CEOs and CFOs be held personally liable if the financial statements omit a material fact). I focus on two events characterized by high macroeconomic uncertainty: SOX and the financial crisis.[3] I find a significant, positive association between immaterial disclosure and the post-SOX and financial crisis indicator variables, consistent with managers disclosing more immaterial information during periods of macroeconomic uncertainty, likely in response to higher investor demand for information during these periods as well as increased disclosure regulation.

My second research question focuses on the effect of firm-level characteristics on immaterial disclosure. I first examine the association between litigation risk and immaterial disclosure, as managers cite litigation concerns as a reason for immaterial disclosure in annual reports (FASB 2015a). Litigation is a direct cost of *non*disclosure if information managers deem *immaterial* ex-ante is, in fact, viewed as *material* by investors ex-post. I find a significant positive association between ex-ante litigation risk (Kim and Skinner 2012) and immaterial disclosure, consistent with managers increasing immaterial disclosure to reduce the expected costs of nondisclosure.

I next examine the association between a firm's earnings quality and immaterial disclosure. Prior research suggests that managers might intentionally reduce the readability of textual disclosures to obfuscate poor firm performance or managed earnings (Li 2008; Lo, Ramos, and Rogo 2017). If immaterial disclosure makes it difficult for investors to identify *material* information, managers might also obfuscate with immaterial disclosure. Using several measures of earnings quality (as well as a principal component measure based on these

[3] Although Figure 1 shows that immaterial disclosure increased during these time periods, I formally test these hypotheses with regressions to assess these trends for statistical significance, and particularly to assess whether the trends remain significant after controlling for other time-varying and time-invariant firm-level characteristics.

measures), I fail to find a clear association between earnings quality and immaterial disclosure, providing little evidence that managers use immaterial disclosure to obfuscate the firm's earnings quality.[4]

My third research question focuses on the effect of manager-level characteristics on immaterial disclosure. I expect that risk-averse managers disclose more immaterial information to mitigate the expected costs of nondisclosure (e.g., litigation; reputational damage). I use two measures to proxy for managerial risk-aversion. First, I examine the association between immaterial disclosure and CEO tenure.[5] CEOs with shorter tenure have been shown to be more risk-averse due to higher uncertainty about their ability and a higher risk of job loss (Dikolli, Mayew, and Nanda 2014), and this career concern manifests in their disclosure policies (Baginski, Campbell, Hinson, and Koo 2018). I find a significant negative association between CEO tenure and immaterial disclosure, consistent with risk-averse CEOs (i.e., CEOs with greater career concerns) providing higher levels of immaterial disclosure.

As a second measure for risk-aversion, I examine the sensitivity of a manager's compensation to stock return volatility (i.e., stock option vega). Firms use vega to encourage *otherwise* risk-averse managers to invest in valuable, but risky projects (e.g., Guay 1999). Because more risk-averse managers require a larger vega to induce them to pursue risky projects, I use vega as an indirect measure of a manager's *innate* level of risk-aversion.[6] I expect that more risk-averse managers (i.e., those with greater vega) disclose more immaterial information

[4] Specifically, I examine absolute discretionary accruals, accruals quality, meeting/beating an earnings benchmark, and a restatement indictor. The restatement indicator is equal to one during the *restated* period(s) for firms that restated earnings due to fraud or an SEC investigation (Lo et al. 2017).

[5] I use CEO tenure and CEO compensation vega to proxy for managerial risk aversion because CEOs are required to personally certify the financial statements and can face criminal penalties for misleading reports following SOX Sections 302 and 906. Therefore, I expect CEOs to have a significant effect on firms' disclosure policies.

[6] Prior research finds that vega reduces managers' risk aversion with respect to *operating* activities but remains silent on vega's association with managers' disclosure policies. I do not expect this effect to extend to managers' disclosure policies, and therefore I use vega as an indirect measure of a manager's *innate* level of risk aversion.

to mitigate expected costs of nondisclosure. Consistent with this expectation, I find that CEO vega is positively associated with immaterial disclosure, again consistent with risk-averse CEOs (i.e., CEOs with higher stock option vega) providing higher levels of immaterial disclosure.

Finally, to understand which of these determinants plays a more prominent role in explaining immaterial disclosure, I estimate a regression with all macroeconomic-, firm-, and manager-level determinants, as well as control variables and firm fixed effects. I find that the post-SOX indicator, financial crisis indicator, litigation risk, and CEO stock option vega continue to have significantly positive associations with the level of immaterial disclosure. Taken together, these findings suggest that managers disclose more immaterial information when the expected costs of *non*disclosure are higher. However, managers do not appear to use immaterial disclosure to obfuscate firm performance.

In additional analyses, I examine capital market consequences of disclosing immaterial information (i.e., stock return volatility, beta, share turnover, and bid-ask spread). I generally find that immaterial disclosure is positively associated with both stock return volatility and bid-ask spread. These results are consistent with regulator concerns that immaterial disclosure may be difficult for investors to process and therefore makes it difficult for investors to identify and process material information in annual reports.[7] Interestingly, I generally find a significant negative association with the level of *material* disclosure, suggesting that material quantitative disclosure is useful to investors and reduces their uncertainty regarding firm value.

This study contributes to the literature in several ways. First, I contribute to the SEC and FASB's ongoing work to improve annual report disclosure effectiveness. Regulators express

[7] While I assess the materiality of each dollar amount in isolation (i.e., whether the amount is above or below a threshold), it may be that immaterial dollar amounts provide information that is material to investors in aggregate. If immaterial disclosure reflects detailed, but useful, information, I would expect immaterial disclosure to be associated with improved capital market consequences. In Section 6.1, I do not find this to be the case.

concern about "disclosure overload," and prior literature focuses on *textual* disclosure attributes that may contribute to this concern (e.g., length and/or readability, You and Zhang 2009, Loughran and McDonald 2014, Bonsall and Miller 2017; redundancy, Cazier and Pfeiffer 2017). Although these studies generally focus on the *consequences* of lengthy, complex (i.e., low readability) annual reports, Cazier and Pfeiffer (2017) examine determinants of redundant disclosure and find that litigation risk and managers' obfuscation incentives play a significant role. Dyer, Lang, and Stice-Lawrence (2017) find that annual report length is associated with increased disclosure requirements (without consideration of materiality or other determinants). In contrast, this study provides insight into the pervasiveness of immaterial disclosure and its evolution over time. Furthermore, I identify firm- and manager-specific determinants of this disclosure. Understanding these determinants may help regulators identify changes to disclosure requirements (or places to provide more risk protection to firms and managers) to achieve their goal of reducing immaterial disclosure in annual reports.

Second, I contribute to the literature on voluntary disclosure. Although I examine a mandatory disclosure setting, regulators emphasize that annual report disclosure requirements apply only to the extent the information is material. Therefore, to a certain degree, firms make a choice to disclose immaterial information. The voluntary disclosure literature generally finds that firms disclose information when the benefits exceed the costs. The primary benefit of disclosure is a reduction in the cost of capital (e.g., Lambert, Leuz, and Verrecchia 2007), while the costs of disclosure can reflect proprietary concerns (e.g., Ellis, Fee, and Thomas 2012), as well as managers' personal incentives (e.g., Baginski et al. 2018). I extend this literature by examining a unique form of voluntary disclosure, immaterial disclosure, in which both the benefits and costs

of disclosure are expected to be low. I provide evidence that suggests immaterial disclosure is better explained by costs of *non*disclosure.

Third, my study contributes to the literature on the consequences of disclosure complexity. This literature generally examines *textual* disclosure attributes, such as length and readability (e.g., Lehavy et al. 2011; Bonsall and Miller 2017). I provide evidence of negative capital market outcomes associated with *quantitative* immaterial disclosure that are incremental to the effects of length and readability. Furthermore, this evidence lends credence to regulators' concerns about the negative effects of a high level of immaterial disclosure in annual reports, and – taken together with the determinants tests – suggests that one way regulators might be able to reduce the level of immaterial disclosure is to (1) reduce 'one-size-fits-all' disclosure regulations, and (2) provide more legal (i.e., safe harbor) protection for managers that opt not to disclose information because they believe the information to be immaterial at the time of the disclosure.

Finally, I contribute to the literature on the textual analysis of accounting disclosures, which largely focuses on attributes of *qualitative* disclosures (e.g., readability; boilerplate). Some studies examine quantitative disclosures, measured as any number (not necessarily a dollar amount) disclosed in the 10-K text (e.g., Blankespoor 2012; Lundholm, Rogo, and Zhang 2014) or tables (e.g., Miller 2010). However, these studies do not consider the magnitude (i.e., materiality) of dollar amounts disclosed or why firms disclose a particular level of immaterial information.

CHAPTER 2

INSTITUTIONAL BACKGROUND AND PRIOR LITERATURE

Institutional Background: Disclosure Projects at the FASB and SEC

The FASB's Disclosure Framework project aims to improve the overall effectiveness of financial statement disclosures, and was added to the FASB's agenda in July 2009 in response to concerns about "disclosure overload" (FASB 2009). The FASB clarifies that its concern is not necessarily with the volume of disclosure, but that "a more vexing issue is the abundance of irrelevant disclosures," which may obstruct investors' ability to identify the information relevant for their decisions (FASB 2014). One specific component of the Disclosure Framework project aims to help firms better assess materiality related to disclosure requirements.[8] The FASB does not provide authoritative guidance to define materiality, and some preparers have voiced concern that assessing materiality is difficult, particularly in the context of excluding immaterial disclosures from the annual report. Some preparers argue that frictions such as litigation risk or the risk of receiving an SEC comment letter prevent them from excluding immaterial disclosures (FASB 2015a), which could occur if preparers make incorrect materiality assessments (i.e., omitting a disclosure they consider immaterial but ex-post discover was material for some financial report user).[9] Thus, in September 2015, the FASB issued a proposed Accounting Standards Update (ASU) on materiality to provide guidance and clarification to help firms "omit immaterial

[8] The Disclosure Framework project has two components. The "Board's decision process" addresses the FASB's process for creating or improving disclosure requirements. The "Entity's decision process" intends "to guide companies… in using discretion when making decisions about what disclosures should be considered 'material' in their particular circumstances" (FASB 2015b).

[9] Another factor that prevents managers from omitting immaterial disclosures is the requirement to communicate these omissions as errors to the audit committee. Further, although there is a statement in Topic 105 in GAAP that indicates that accounting standard stipulations do not apply to immaterial items, some preparers stated they were unaware of this statement or uncertain as to whether it applies to disclosures (FASB 2015a).

information and focus communication with users on the material, relevant items" (FASB 2015b, pg. 2), with final updates to Concepts Statement No. 8 issued in August 2018.

The SEC is also updating its disclosure requirements to improve the overall effectiveness of Form 10-K disclosures, partly due to concern about the prevalence of immaterial information disclosed in these reports. In April 2016, the SEC issued a concept release requesting feedback on several potential changes to disclosure requirements. In response to the feedback received, the SEC issued a proposed rule in October 2017 with specific changes intended to "discourage repetition and disclosure of immaterial information" (SEC 2017, pg. 1).

Theoretical Literature on Voluntary Disclosure

Managers disclose information to mitigate the information asymmetry that exists between a firm and its investors. Early theoretical work shows that adverse selection should induce full disclosure because if information is withheld, investors assume the manager is withholding bad news and discount the stock price (Milgrom 1981; Verrecchia 2001). However, full disclosure is not observed in practice. Subsequent work identifies frictions that prevent full disclosure, such as: investors' uncertainty about managers' information endowment (Dye 1985; Jung and Kwon 1988); quality of the information (Verrecchia 1990); and costs of disclosing the information (Verrecchia 1983). Accordingly, managers consider these frictions when making disclosure decisions, and ultimately disclose information when the benefits of disclosure outweigh the costs.

Empirical Literature on Voluntary Disclosure Determinants

Empirical research supports the notion that voluntary disclosure results from a cost/benefit trade-off. The primary benefit of disclosure is to reduce a firm's cost of capital (e.g., Botosan 1997; Coller and Yohn 1997; Leuz and Schrand 2009; Baginski and Hinson 2016). One

of the primary costs of disclosure is proprietary costs, as publicly disclosed information also becomes available to a firm's competitors. In general, firms in more competitive environments disclose less (e.g., Ellis et al. 2012; Ali, Klasa, and Yeung 2014), although Beyer et al. (2010) note some mixed findings in the literature, likely due to the difficulty in measuring proprietary costs.

The effect of disclosures on litigation risk can be viewed as a cost or a benefit, depending on the nature and venue of the disclosure. On the one hand, the disclosure of forward-looking information can increase litigation risk if the forecasted information does not materialize (e.g., Johnson, Kasznik, and Nelson 2001; Baginski, Hassell, and Kimbrough 2002; Bourveau, Lou, and Wang 2018). On the other hand, voluntary disclosure can preempt negative earnings surprises, which may reduce investors' ability to accuse a firm of withholding information and thereby reduce the risk of litigation (e.g., Skinner 1994; Baginski et al. 2002; Field, Lowry, and Shu 2005).

The annual report as a disclosure setting is unique from management forecasts because annual reports are not directly preemptive, as the earnings announcement has already occurred. Furthermore, a relatively small portion of the annual report is dedicated to forward-looking disclosures. However, annual report disclosure is sticky (Brown and Tucker 2011; Dyer, Lang, and Stice-Lawrence 2017) and may be used as part of a disclosure *policy* to mitigate litigation risk. Consistent with this notion, Cazier and Pfeiffer (2017) find that annual reports contain more repetitive disclosures when a firm's litigation risk is higher, and Nelson and Pritchard (2016) find that firms with higher litigation risk have a higher quantity and quality of risk factor disclosures. Furthermore, Heitzman, Wasley, and Zimmerman (2010) find that litigation risk is

positively associated with the decision to voluntarily disclose advertising expenditures in the annual report.

Managers' personal incentives can also affect the costs and benefits they perceive of disclosure. Managers with greater career concerns are more likely to delay disclosure of bad news, likely because they do not want the news to negatively affect their reputation and future career opportunities (Baginski et al. 2018). Furthermore, the extent to which managers' compensation is tied to the firm's stock price can also incentivize disclosure (Nagar, Nanda, and Wysocki 2003).

Although I examine a mandatory disclosure setting, regulators emphasize that annual report disclosure requirements apply only to the extent the information is material (FASB 2015a; SEC 2017). Thus, to a certain degree, firms *voluntarily* disclose immaterial information. However, the distinction between mandatory and voluntary disclosure is not always clear because regulators do not provide bright-line guidance for assessing whether a particular disclosure is material. Instead, managers must assess whether information may be considered qualitatively material, in addition to assessing whether it is quantitatively material. This ambiguity in making materiality assessments may explain why managers appear to err on the side of disclosing "immaterial" information.[10]

[10] Heitzman et al. (2010) make this distinction between mandatory and voluntary disclosure, arguing that voluntary disclosure considerations (i.e., costs and benefits) apply only to the extent that a particular disclosure is immaterial. They provide evidence that voluntary disclosure determinants (i.e., debt issuances and litigation risk) have incremental explanatory power in the decision to disclose advertising expenditures in the annual report when advertising expenditures are less likely to be material. While Heitzman et al. model a firm's decision to disclose advertising expenditures as a function of the potential materiality and voluntary disclosure determinants, my research questions focus on the *overall* level of immaterial disclosure. That is, my paper uniquely examines the level of immaterial disclosure in the entire annual report, which more directly captures a firm's disclosure *policy*.

CHAPTER 3

HYPOTHESIS DEVELOPMENT

Managers disclose information to mitigate the information asymmetry that exists between a firm and its investors. Early theoretical work shows that adverse selection should induce a policy of full disclosure by managers (Milgrom 1981). However, because such a policy is not observed in practice, there must exist frictions which prevent managers from adopting a policy of full disclosure (Dye 1985; Jung and Kwon 1988; Verrecchia 1990). This finding suggests that a firm's observed disclosure level is the result of a cost/benefit analysis in which the *benefits* of disclosure (or alternatively, the costs of *non*disclosure) outweigh the *costs* of disclosure (or alternatively, the benefits of *non*disclosure) (e.g., Healy and Palepu 2001; Beyer et al. 2010).

According to the FASB, material information has the potential to change or influence "the judgment of a reasonable person," whereas *immaterial* information should be "too small to make a difference" (FASB 2018).[11] This statement suggests that there should be little direct benefit (or cost) of disclosing immaterial information. However, given the observed level of immaterial disclosure in firms' annual reports, there could be expected costs of *non*disclosure of immaterial information that drive managers to disclose. Further, it is likely that these expected costs of nondisclosure increase when the appropriate materiality threshold becomes less clear.[12]

[11] FASB Concepts Statement No. 8 Chapter 3 provides non-authoritative guidance to firms for assessing materiality as related to disclosures. Information is considered material "if…the magnitude of the item is such that it is probable that the judgment of a reasonable person relying upon the report would have been changed or influenced by the inclusion or correction of the item" (FASB 2018, QC11). Information is considered immaterial if it is "too small to make a difference to an investor or other decision maker" (FASB 2018, QC11A).

[12] In 2015, the FASB conducted a field study to better understand the circumstances that lead managers to disclose immaterial information. Managers cited several frictions that prevent them from excluding immaterial information in the annual report, including litigation risk, the risk of receiving an SEC comment letter, and the requirement to report omitted disclosures as errors to the audit committee (FASB 2015a). Note that these frictions relate to consequences of *not* disclosing immaterial information, rather than benefits to disclosing immaterial information.

Ambiguity arises because regulators require managers to assess whether a piece of information is material to *investors*. Given the FASB and SEC's concerns that firms disclose too much immaterial information, I examine the reasons for this disclosure. Specifically, I examine macroeconomic-, firm-, and manager-level characteristics that might influence the costs of nondisclosure, and thus explain the level of immaterial disclosure in firms' annual reports.

Macroeconomic-level Determinants of Immaterial Disclosure

Prior research finds that annual report length has increased significantly over the past two decades, and links this increase to regulatory changes made in response to evolving business and economic conditions (Dyer et al. 2017). Furthermore, annual report disclosure is sticky, and once a firm discloses a piece of information, it is unlikely to remove that information in future years (e.g., Brown and Tucker 2011; Nelson and Pritchard 2016; Dyer et al. 2017). This "stickiness" suggests that a firm might disclose information in one year because it is material and continue to disclose that information in subsequent years, even if it is no longer material. Therefore, I expect a positive time trend in immaterial disclosure. To more directly link the increase in immaterial disclosure to changing regulatory and economic conditions, I focus on two events that are characterized by high macroeconomic uncertainty: SOX and the financial crisis.

In general, I expect that the amount of immaterial disclosure increases during periods of high macroeconomic uncertainty. Investors likely demand more information during periods of high uncertainty (i.e., as the precision of their prior beliefs decreases; Jung and Kwon 1988; Verrecchia 1990). Furthermore, I expect that firms are likely willing to disclose more information during periods of uncertainty. Materiality is more difficult to assess when economic conditions are changing, and an item that seems immaterial today may become material in the future.

SOX was enacted in response to corporate fraud scandals that significantly reduced the public's trust in the financial reporting process. In the months leading up to SOX, investors were highly uncertain about the reliability of financial disclosures, particularly given the collapse of Enron and auditor Arthur Andersen (Leuz and Schrand 2009), and this uncertainty is likely associated with lower materiality thresholds. Furthermore, SOX Section 302 requires the CEO and CFO to personally certify that the financial statements and footnotes "fairly present" the firm's "financial condition and results of operations," and Section 906 provides criminal penalties for misleading financial reports. These changes directly increase managers' cost of nondisclosure, and because the changes are permanent, I expect the increase in immaterial disclosure to persist over the years following the enactment of SOX.

H1A: *The amount of immaterial disclosure in the annual report is greater during the post-Sarbanes Oxley Act period.*

Similarly, the recent financial crisis was characterized by high uncertainty. Corporate investment policy reflected this uncertainty (e.g., Kahle and Stulz 2013), and I examine whether the effects of uncertainty extend to firms' disclosure policies. I expect that investors' materiality thresholds were lower during the financial crisis, thereby increasing firms' expected costs of nondisclosure, resulting in more immaterial disclosure during the financial crisis.

H1B: *The amount of immaterial disclosure in the annual report is greater during the financial crisis period.*

Firm-level Determinants of Immaterial Disclosure

Under Rule 10(b)-5 of the 1934 Securities Exchange Act, firms can be sued for failure to disclose material information. Managers claim they consider potential litigation risk when making disclosure decisions (KPMG 2011), and empirical evidence generally supports this claim

(e.g., Heitzman et al. 2010; Nelson and Pritchard 2016; Cazier and Pfeiffer 2017). However, assessing whether a piece of information will be material to investors is often difficult for managers. The risk is that managers discover something they deem *immaterial* ex-ante is, in fact, *material* ex-post. The expected costs of making an incorrect materiality assessment (i.e., the expected costs of nondisclosure) increase as a firm's litigation risk increases, and I expect managers to respond by disclosing more immaterial information in the annual report.

H2A: *The amount of immaterial disclosure in the annual report is positively associated with a firm's ex-ante litigation risk.*

As previously discussed, disclosure is intended to reduce information asymmetry between a firm and its investors, allowing investors to assess current and future firm performance with greater precision. This improved precision is a benefit of disclosure that can lead to greater liquidity and a lower cost of capital (e.g., Diamond and Verrecchia 1991; Lambert et al. 2007). However, prior research suggests managers might provide less readable disclosure to obfuscate poor performance (Li 2008; Lo et al. 2017). To the extent that managers believe investors are limited by their information processing capabilities, they might disclose *more* immaterial information when earnings quality is low in order to obfuscate true firm performance. If so, the decision to disclose immaterial information is driven by a perceived benefit of the disclosure (i.e., obfuscation).

H2B: *The amount of immaterial disclosure in the annual report is negatively associated with a firm's earnings quality.*

To the extent that it reflects detailed information (i.e., contrary to the FASB's expectations; see footnote 11), immaterial disclosure may help investors unravel earnings

management behavior. In this case, firms with low earnings quality may disclose *less* immaterial information to prevent investors from identifying the low earnings quality.

Manager-Level Determinants of Immaterial Disclosure

Risk-averse managers are likely to disclose more immaterial information to mitigate the expected costs of nondisclosure (e.g., litigation; reputational damage). When a manager is newer at the firm (i.e., tenure is shorter), investors' uncertainty about his/her ability is high (Gibbons and Murphy 1992; Hermalin and Weisbach 1998). As such, newer managers are more likely to be fired for poor performance because investors interpret the poor performance as a signal of low ability (Dikolli et al. 2014). I expect managers with shorter tenure to be more risk-averse due to the higher risk of dismissal. Risk-averse managers are more likely to take actions to mitigate perceived risks and may use disclosure to prove that they are working in the interest of the firm's shareholders (i.e., disclosure can be used as a monitoring mechanism; Armstrong, Guay, and Weber 2010). *Immaterial* disclosure may be particularly useful because it shows investors that the information is not *material*.[13] Thus, I expect newer managers to disclose more immaterial information.

H3A: *The amount of immaterial disclosure in the annual report is negatively associated with the manager's tenure at a firm.*

Vega, or the sensitivity of a manager's compensation to the firm's stock return volatility, induces a positive association between the value of the manager's compensation and firm risk (i.e., volatility). Thus, firms use vega to encourage *otherwise* risk-averse managers to pursue valuable risk in operating activities (e.g., Guay 1999; Armstrong and Vashishtha 2012). Because risk-averse managers require vega to induce them to pursue risky projects, I use vega as an

[13] Alternatively, the manager could *withhold* immaterial information. However, withholding information would increase investors' uncertainty about the nature of this information, thereby increasing their uncertainty about the manager's ability and/or intentions.

indirect measure of managers' *innate* level of risk-aversion.[14] I expect that risk-averse managers are less tolerant towards the expected costs of nondisclosure and will thus provide more immaterial disclosure.

H3B: *The amount of immaterial disclosure in the annual report is positively associated with the sensitivity of the manager's compensation to stock return volatility (vega).*

[14] Although vega reduces managers' risk-aversion with respect to operating activities, I do not expect vega to reduce their risk-aversion with respect to disclosure policy. Furthermore, if vega induces managers to take more operating risk, I expect these innately risk-averse managers to increase disclosure to protect themselves from the additional operating risk exposure.

CHAPTER 4

RESEARCH DESIGN

Research Design for Tests of H1A and H1B

My first set of hypotheses examine the association between the level of immaterial disclosure and macroeconomic characteristics (i.e., SOX and the recent financial crisis). To test these hypotheses, I estimate the following regression with robust standard errors clustered by firm:

$$\begin{aligned} LogImmaterial_{i,t} = \\ \alpha_0 + \alpha_1 PostSox + \alpha_2 FinCrisis + \alpha_3 Size_{i,t} + \alpha_4 BTM_{i,t} + \alpha_5 Beta_{i,t} + \alpha_6 Lev_{i,t} + \alpha_7 ROA_{i,t} \\ + \alpha_8 LnWords_{i,t} + \text{Industry (Firm) Fixed Effects} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

LogImmaterial is the natural log of the count of immaterial dollar amounts in the annual report and is based on one of three materiality thresholds. I also estimate Equation (1) with the percentage of immaterial dollar amounts (out of total dollar amounts) as the dependent variable to ensure I am not capturing effects of general disclosure *quantity*. Immaterial dollar amounts are those less than 0.5% of total assets; 5% of the absolute value of net income; or 1% of sales. See Appendix A for variable definitions. See Appendix B for details on extracting dollar amount from annual reports.

PostSox is an indicator variable set equal to one for fiscal years ending in 2002 and later. H1A predicts that managers disclose more information in the post-SOX time period due to the high macroeconomic uncertainty and significant regulatory changes. Thus, H1A predicts that *PostSox* is positively associated with immaterial disclosure (i.e., $\alpha_1 > 0$). *FinCrisis* is an indicator

variable set equal to one for fiscal years ending during the financial crisis (i.e., 2008 and 2009). I expect that the high uncertainty during the financial crisis lowered investors' materiality thresholds, increasing firms' expected costs of nondisclosure and therefore the amount of immaterial information disclosed in annual reports. Therefore, H1B predicts $\alpha_2 > 0$.

I also include controls to capture other firm characteristics that may be correlated with these expected determinants as well as with the level of immaterial disclosure in the annual report. I expect that larger firms disclose more information in general, and therefore I expect a positive coefficient on *Size* (i.e., $\alpha_3 > 0$). The next three variables (*BTM*, *Beta*, *Lev*) capture dimensions of firm risk (e.g., Fama and French 1992, 1993; Fisher 1959). If managers disclose immaterial information to mitigate some cost (or, risk) of nondisclosure, I expect that riskier firms will have more immaterial disclosure (i.e., $\alpha_4 > 0$, $\alpha_5 > 0$, and $\alpha_6 > 0$). If poorly performing firms provide more immaterial disclosure to obfuscate (Li 2008), or to explain (Bloomfield 2008), poor performance, I expect a negative coefficient on ROA (i.e., $\alpha_7 < 0$). *LnWords* is the natural log of the number of words in the annual report. I expect that firms with longer annual reports in general will have more immaterial disclosure (i.e., $\alpha_8 > 0$). Finally, I estimate Equation (1) separately with industry fixed effects or with firm fixed effects to control for time-invariant industry or firm characteristics that may also be associated with firms' disclosure practices.

Research Design for Tests of H2A and H2B

My second set of hypotheses examine the association between the level of immaterial disclosure and firm-level characteristics (litigation risk and earnings quality). To test these hypotheses, I estimate the following regression with robust standard errors clustered by firm:

$$LogImmaterial_{i,t} =$$

$$\beta_0 + \beta_1 LitRisk_{i,t} + \beta_2 EQ\_PCM_{i,t} + \beta_3 Size_{i,t} + \beta_4 BTM_{i,t} + \beta_5 Beta_{i,t} + \beta_6 Lev_{i,t} + \beta_7 ROA_{i,t} + \beta_8 LnWords_{i,t} + \text{Industry (Firm) Fixed Effects} + \text{Year Fixed Effects} + \varepsilon_{i,t} \quad (2)$$

LitRisk is a firm-level measure of ex-ante litigation risk, calculated following Kim and Skinner (2012). The expected costs of nondisclosure increase as a firm's ex-ante litigation risk increases. Therefore, H2A predicts that managers disclose more immaterial information when firm-level litigation risk is higher (i.e., $\beta_1 > 0$). *EQ_PCM* is a principal component measure based on several earnings quality proxies (absolute discretionary accruals; Dechow and Dichev (2002) accruals quality; meeting/beating by one cent prior year's earnings; restatement indicator; see Appendix C for more detail). Because a higher value of each of the underlying earnings quality proxies indicates *lower* earnings quality, a higher value of *EQ_PCM* also indicates *lower* earnings quality. If managers use immaterial disclosure to obfuscate the firm's earnings quality, I expect a higher level of immaterial disclosure when earnings quality is lower. That is, I expect $\beta_2 > 0$.

Research Design for Tests of H3A and H3B

My third set of hypotheses examine the association between the level of immaterial disclosure and manager-level characteristics (CEO risk-aversion, or tenure and vega). To test these hypotheses, I estimate the following regression with robust standard errors clustered by firm:

$$LogImmaterial_{i,t} =$$

$$\gamma_0 + \gamma_1 CEOtenure_{i,t} + \gamma_2 Vega_{i,t} + \gamma_3 Delta_{i,t} + \gamma_4 Size_{i,t} + \gamma_5 BTM_{i,t} + \gamma_6 Beta_{i,t} + \gamma_7 Lev_{i,t} + \gamma_8 ROA_{i,t} + \gamma_9 LnWords_{i,t} + \text{Industry (Firm) Fixed Effects} + \text{Year Fixed Effects} + \varepsilon_{i,t} \quad (3)$$

I expect that more risk-averse managers disclose more immaterial information to mitigate expected costs of nondisclosure (e.g., litigation; reputational damage). *CEOtenure* is the count of the number of years the manager has been CEO at the firm. I expect that CEOs with *shorter* tenure are more risk-averse (due to higher likelihood of dismissal; Dikolli et al. 2014) and will therefore disclose more immaterial information to mitigate costs associated with nondisclosure (i.e., $\gamma_1 < 0$). Firms provide managers with vega to induce otherwise risk-averse managers to invest in valuable, but risky, projects. Therefore, if vega proxies for a manager's innate level of risk-aversion, I expect that vega is positively associated with the level of immaterial disclosure in the annual report (i.e., $\gamma_2 > 0$).[15] I also control for delta, or the sensitivity of the CEO's compensation to stock price, because prior literature documents an association between delta and managers' disclosure practices (e.g., Nagar et al. 2003). However, I do not make a prediction for the association between delta and the level of immaterial disclosure because prior literature suggests the association between delta and risk is ambiguous (e.g., Low 2009; Armstrong and Vashishtha 2012) (and in general, I expect that managers use immaterial disclosure to respond to some form of risk exposure).

Combining All Determinants in One Model

As described in Sections 4.1–4.3, I first examine each determinant level separately (i.e., macroeconomic-level, firm-level, and manager-level). After examining the determinants separately, I estimate a regression that includes all determinants in one model to assess which of these effects dominates the decision to provide immaterial information. This approach provides a more complete understanding of the determinants of immaterial disclosure, as I am interested in

[15] I obtain measures of CEO vega from Lalitha Naveen's website (https://sites.temple.edu/lnaveen/data/). This data was used in Coles, Daniel, and Naveen (2006), and has been updated through 2014. Delta and vega are calculated following the methodology in Core and Guay (2002).

how the determinants behave separately and jointly. Specifically, I estimate the following equation with robust standard errors clustered by firm:

$$\begin{aligned} LogImmaterial_{i,t} = \\ & \varphi_0 + \varphi_1 PostSox + \varphi_2 FinCrisis + \varphi_3 LitRisk_{i,t} + \varphi_4 EQ\_PCM_{i,t} + \varphi_5 CEOtenure_{i,t} + \\ & \varphi_6 Vega_{i,t} + \varphi_7 Delta_{i,t} + \varphi_8 Size_{i,t} + \varphi_9 BTM_{i,t} + \varphi_{10} Beta_{i,t} + \varphi_{11} Lev_{i,t} + \varphi_{12} ROA_{i,t} + \\ & \varphi_{13} LnWords_{i,t} + \text{Industry (Firm) Fixed Effects} + \varepsilon_{i,t} \end{aligned} \quad (4)$$

CHAPTER 5

RESULTS

Sample Selection

To create my sample, I obtain all annual reports (i.e., all variations of Form 10-K, excluding 10-K amendments, resulting in one filing per firm-year) filed during 1998 – 2015 from Bill McDonald's Google Drive.[16] Using CIK as the firm-identifier, I merge this data with Compustat, resulting in 117,881 unique filings. I require non-missing total assets, net income, and sales for each firm-year in order to calculate the immateriality measures, and retain filings only for fiscal years ending in 1997 – 2014. I begin the sample in 1997 as it is one year before the SEC issued its Plain English Handbook, and end in 2014 as these annual reports were filed in early 2015 and my additional analyses require stock return data through early 2016. After executing the Python program to extract all dollar amounts from the available annual reports (see Appendix B), 83,595 firm-year observations with valid immateriality measures remain. I lose 22,594 observations that I cannot merge with CRSP data (i.e., missing Permno identifier). I lose an additional 3,432 observations that do not have the data necessary to calculate control variables (i.e., size, book-to-market, beta, leverage, ROA, and 10-K length). I require at least 200 days of stock returns in the 240-day window prior to the 10-K file date to calculate beta, which removes an additional 2,544 observations. Finally, I exclude financial firms (i.e., SICH between 6000 – 6999), which brings the final sample to 45,544 observations. Table 1 Panel A summarizes the sample selection process. Table 1 Panel B presents the sample distribution by two-digit SIC,

[16] Documentation regarding McDonald's process for downloading and parsing the 10-X filing text documents can be found here: http://www3.nd.edu/~mcdonald/Word_Lists_files/Documentation/Documentation_StageOne_10-X_Parse.pdf.

relative to the Compustat universe. Overall, the distribution appears consistent with the Compustat universe.

Descriptive Statistics and Correlations

Table 2 Panel A presents summary statistics. I winsorize all continuous variables at the top and bottom one percent to mitigate the influence of outliers. As previously mentioned, I examine three measures of the level of immaterial disclosure, based on different materiality thresholds (0.5% of total assets; 5% of net income; 1% of sales). The means of *LogImmat*, *LogImmni*, and *LogImmsale* range from 6.136 to 6.230, indicating that the different thresholds result in similar immateriality measures. Approximately 67% of the observations are in the post-SOX period, while 10.5% of the observations are during the financial crisis.

Due to additional data restrictions, the firm-level and manager-level variables have smaller sample sizes. In particular, the manager-level variables (*CEOtenure* and *Vega*) rely on Execucomp data, which covers only S&P 1500 firms. The remaining determinants and other control variables are largely consistent with those reported in prior literature.

Table 2 Panel B presents the sample distribution and select disclosure attributes by year. While the average number of words in annual reports has increased substantially over my sample period (64%), the number of dollar amounts has increased even more. Specifically, the number of material dollar amounts has increased 79%, while the number of immaterial dollar amounts has increased 134% from 1997 to 2014. Figure 1 visually depicts these changes in the disclosure attributes.

Table 2 Panel C presents average immaterial disclosure and ex-ante litigation risk by two-digit SIC. In general, it appears that the industries with the largest amount of immaterial disclosure are the industries that are more heavily regulated and/or operate in more uncertain

environments (e.g., electric and gas companies; communications; oil and gas extraction). However, there is not a strong relation between immaterial disclosure and litigation risk at the *industry-level*.

Table 3 presents the correlation matrix, with Pearson (Spearman) correlation coefficients above (below) the diagonal. As expected, the three immateriality measures (*LogImmat*, *LogImmni*, and *LogImmsale*) are highly correlated ($\rho \geq 0.87$), suggesting that the different thresholds determine a dollar amount's materiality in a similar manner. The immateriality measures are positively correlated with *PostSox*, *FinCrisis*, *LitRisk*, and *Vega,* and negatively correlated with *CEOtenure*, providing univariate support for H1A, H1B, H2A, H3A, and H3B. Interestingly, the immateriality measures are *negatively* correlated with the earnings quality principal component measure (*EQ_PCM*), which does not support the hypothesis that managers disclose immaterial information to obfuscate. Finally, the immateriality measures are highly correlated with annual report length (*LnWords*), suggesting that at the univariate level, longer annual reports have more immaterial disclosure.

Tests of H1A and H1B

Table 4 presents results for tests of H1A (*PostSox*) and H1B (*FinCrisis*). Panel A presents the results of the regressions without control variables or fixed effects. *PostSox* and *FinCrisis* have consistently positive, significant coefficients across all immateriality measures. Panel B presents the results of estimating Equation (1), which includes both *PostSox*, *FinCrisis*, and the control variables. Columns 4a–4c present results with industry fixed effects, while columns 5a–5c include firm fixed effects. *PostSox* and *FinCrisis* continue to have significant positive coefficients, which provides support for H1A and H1B. These results are consistent with

the notion that managers disclose more immaterial information in response to macroeconomic uncertainty and related regulatory changes.

Tests of H2A and H2B

Table 5 presents results for tests of H2A (*LitRisk*) and H2B (*EQ_PCM*). Again, Panel A presents the results from regressions without control variables or fixed effects. Litigation risk has a significant, positive association with immaterial disclosure, consistent with H2A. The adjusted R^2 is 0.11 when *LitRisk* is the only explanatory variable in the regression (columns 1a–1c), which suggests that litigation risk explains approximately 11% of the variation in immaterial disclosure.

Panel A also presents the results from including the earnings quality principal component measure as an explanatory variable. H2B predicts a positive association between *EQ_PCM* and immaterial disclosure if managers use immaterial disclosure to obfuscate poor earnings quality. However, the coefficient on *EQ_PCM* is *negative* and significant, suggesting that managers disclose *less* immaterial information when earnings quality is poor. This result is inconsistent with the obfuscation hypothesis, but perhaps suggests that managers disclose less detailed (i.e., immaterial) information to prevent investors from identifying poor earnings quality. Panel B presents the results of regressions using the underlying earnings quality measures as explanatory variables. The absolute value of discretionary accruals (*AbsDA*), accruals quality (*AQ*), and the meet/beat indicator (*MB1*) have significant negative associations with immaterial disclosure, which is inconsistent with H2B. However, the restatement indicator has a significant *positive* association with immaterial disclosure. Because the restatement indicator variable is equal to one for the *restated* period(s), this result supports H2B and suggests that managers disclose more immaterial information when earnings quality is very low (i.e., earnings quality is so low that those earnings are eventually restated).

Panel C presents the results from estimating Equation (2), which includes *LitRisk*, *EQ_PCM*, controls, year fixed effects, and industry fixed effects (columns 8a–8c) or firm fixed effects (columns 9a–9c). Litigation risk generally has a significant positive association with immaterial disclosure. This result supports H2A and is consistent the notion that managers disclose more immaterial information to mitigate litigation risk. The coefficients on *EQ_PCM* are inconsistent across the regressions, and as such, I do not have clear support for H2B. These results do *not* suggest that managers disclose immaterial information to obfuscate poor earnings quality.

Tests of H3A and H3B

Table 6 presents results for tests of H3A (*CEOtenure*) and H3B (*Vega*). Again, Panel A presents the results from regressions without control variables or fixed effects. I find a significant negative coefficient on *CEOtenure*, which is consistent with H3A and suggests that CEOs with shorter tenure disclose more immaterial information. I find a significant positive association between *Vega* and immaterial disclosure, which is consistent with H3B. This result suggests that more risk-averse CEOs (i.e., those that require higher vega) disclose more immaterial information.

Panel B presents results from estimating Equation (3), which includes *CEOtenure*, *Vega*, controls, year fixed effects, and industry fixed effects (columns 4a–4c) or firm fixed effects (columns 5a–5c). The coefficient on *CEOtenure* remains negative and significant when industry fixed effects are included, but becomes insignificant when firm fixed effects are included in the regression. However, *Vega* is positive and significant when firm fixed effects are included. Overall, these results are consistent with the notion that more risk-averse managers disclose more immaterial information to mitigate the expected costs of nondisclosure.

All Determinants

Finally, I estimate Equation (4), which includes all of the macroeconomic-, firm-, and manager-level determinants to identify which of these effects dominate in a joint setting. The results are presented in Table 7. *PostSox*, *FinCrisis*, *LitRisk*, and *Vega* continue to have significant positive associations with the level of immaterial disclosure in the annual report. Overall, it appears that the level of immaterial disclosure is associated with measures that capture variation in the expected costs of nondisclosure. Failing to disclose information can have significant consequences for a firm and its managers in terms of litigation and reputational costs if that information is deemed material ex-post. Managers appear to disclose more immaterial information when the expected costs may be greater (*PostSox*; *FinCrisis*; *LitRisk*), or when managers are personally more averse to experiencing the costs of nondisclosure (*Vega*).

The control variables are consistent with the expectations discussed in Section 4.1. Furthermore, the control variables are generally consistent between the different tests in Tables 4 through 7. Specifically, larger (*Size*), riskier (*BTM*; *Beta*; *Lev*) firms tend to disclose more immaterial information. Firms with poor performance (*ROA*) and those with longer annual reports (*LnWords*) also disclose more immaterial information.

Alternative Dependent Variable - % of Immaterial Disclosure

For brevity, the results to this point use the number of immaterial amounts as the dependent variable. If certain firms disclose a high quantity of information in general (e.g., larger or more complex firms), I expect these firms to also have high levels of immaterial disclosure. I control for firm size, 10-K length (*LnWords*), and firm fixed effects in Tables 4 – 7 in attempt to capture this concern. However, if I instead measure immaterial quantitative disclosure as a *percentage* of all quantitative disclosure (i.e., immaterial + material dollar amounts) (i.e.,

PctImmaterial) for each of the previously discussed tables, the results are unchanged. Table 8 explicitly tabulates these results for the model that simultaneously includes all determinants (i.e., Equation (4)).[17]

Alternative Materiality Thresholds

As previously discussed, my thresholds for determining materiality are based on quantitative percentages used by auditors (Eilifsen and Messier 2015). This choice is admittedly arbitrary. Therefore, in this section, I assess the sensitivity of my results using *lower* materiality thresholds. That is, I classify dollar amounts as immaterial if they are below 0.25% of total assets, 2.50% of the absolute value of net income, or 0.5% of sales. These thresholds are exactly one-half the level of the thresholds used in my main analyses, resulting in more dollar amounts classified as *material*. In untabulated analyses, I re-estimate Equation (4) with the dependent variables based on lower materiality thresholds, and find that the coefficients and *t*-statistics are quantitatively unchanged from those reported in Table 7.

[17] To mitigate concerns about clustering on the same dimension as a fixed effect, in untabulated analyses, I estimate Equation (4) clustering standard errors by year, for both the log and the percentage version of the dependent variables. All explanatory variables remain significant at similar levels, with the exception of *FinCrisis*, which is no longer significant at conventional levels.

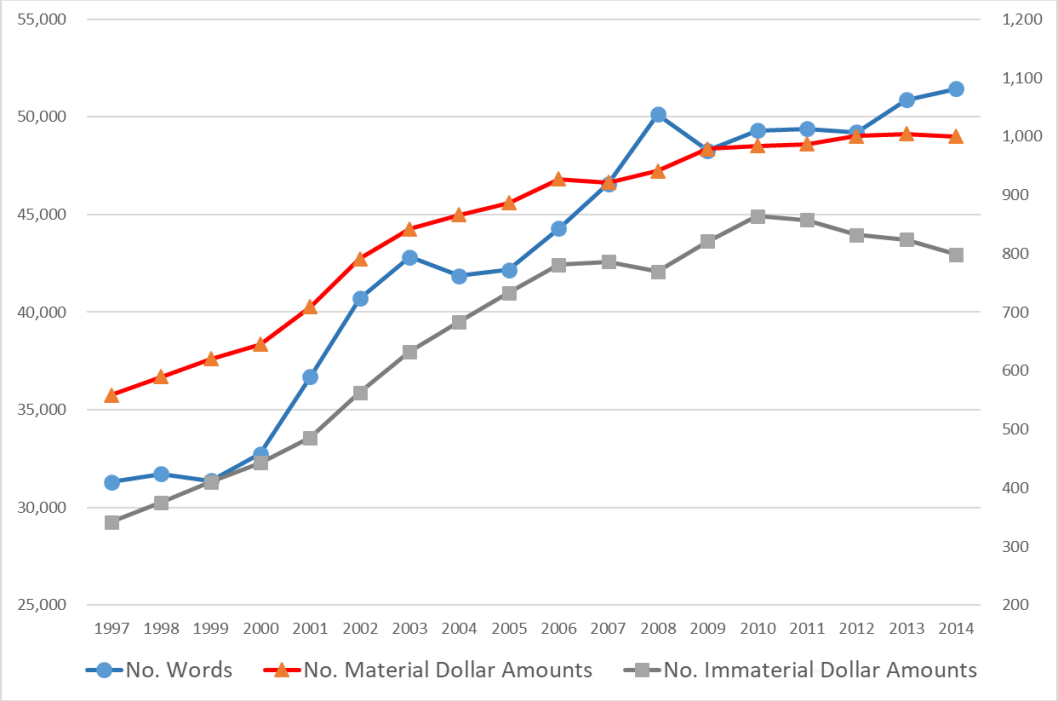

FIGURE 1: 10-K Attributes over Time

Figure 1 documents the evolution of select 10-K attributes over the sample period of 1997 through 2014. The axis on the left reflects the average number of words in annual reports. The axis on the right relates to the average number of dollar amounts (material and immaterial) in annual reports over the sample period.

TABLE 1: Sample Selection

Panel A: Sample Selection

Data Restrictions	**Observations**
Annual reports filed during 1998-2015 that match to Compustat	117,881
Less:	
Firm-years with invalid materiality measures (i.e., missing assets, net income, and sales) and/or fiscal year-end outside of 1997-2014	(34,286)
Firm-years missing Permno	(22,594)
Firm-years missing data needed to calculate control variables (*Size, BTM, Beta, Lev, ROA, LnWords*)	(3,432)
Firm-years with less than 200 days of stock return data (for estimation of *Beta*)	(2,544)
Financial firm-years (SICH 6000 - 6999)	(9,481)
Final sample	**45,544**

Panel B: Sample Distribution by Two-Digit SIC

2-digit SIC	**Number**	**Percentage**	**Percentage of All Non-Financial Compustat Firms**
13: Oil & Gas Extraction	1,630	3.58%	4.61%
20: Food & Kindred Products	1,085	2.38%	2.33%
28: Chemical & Allied Products	4,925	10.81%	10.39%
35: Industrial Machinery & Equipment	3,066	6.73%	5.54%
36: Electronic & Other Electric Equipment	4,354	9.56%	8.17%
37: Transportation Equipment	1,060	2.33%	2.15%
38: Instruments & Related Products	3,590	7.88%	6.21%
48: Communications	1,419	3.12%	4.45%
49: Electric, Gas, & Sanitary Services	1,512	3.32%	4.79%
50: Wholesale Trade – Durable Goods	1,183	2.60%	2.27%
59: Miscellaneous Retail	961	2.11%	1.93%
73: Business Services	6,546	14.37%	14.39%
80: Health Services	947	2.08%	1.66%
87: Engineering & Management Services	1,112	2.44%	2.09%
Industries with less than 2%	12,154	26.69%	29.02%

Table 1 Panel A documents the steps I follow to obtain the sample for macreconomic-level determinants tests, which is the broadest sample at 45,544 firm-years. Panel B shows the distribution of this sample by two-digit SIC.

TABLE 2: Descriptive Statistics

Panel A: Summary Statistics

Variable	N	Mean	Std Dev	25th Pct.	Median	75th Pct.
LogImmat	45,544	6.221	0.722	5.733	6.238	6.720
LogImmni	45,544	6.136	0.701	5.680	6.174	6.623
LogImmsale	45,544	6.230	1.082	5.826	6.356	6.835
PostSox	45,544	0.676	0.468	0.000	1.000	1.000
FinCrisis	45,544	0.105	0.306	0.000	0.000	0.000
LitRisk	38,035	0.027	0.025	0.011	0.019	0.033
EQ_PCM	30,614	0.000	1.176	-0.792	-0.360	0.386
AbsDA	38,035	0.085	0.103	0.022	0.051	0.105
AQ	30,615	0.047	0.039	0.021	0.035	0.060
MB1	38,033	0.012	0.111	0.000	0.000	0.000
Restate	38,035	0.021	0.143	0.000	0.000	0.000
CEOTenure	14,947	6.671	7.151	2.000	5.000	9.000
Vega	14,947	130.949	209.869	14.133	50.388	152.436
Delta	14,947	675.872	1581.100	78.524	209.715	574.627
Size	45,544	5.561	2.180	3.911	5.495	7.088
BTM	45,544	0.631	0.645	0.255	0.474	0.808
Beta	45,544	0.892	0.618	0.428	0.858	1.291
Lev	45,544	0.191	0.210	0.002	0.131	0.312
ROA	45,544	-0.081	0.321	-0.082	0.024	0.068
LnWords	45,544	10.462	0.590	10.079	10.479	10.848
BogIndex	37,127	83.909	7.234	79.000	84.000	89.000

Panel B: Sample Distribution and Select Annual Report Attributes by Year

Year	N	No. Words	No. Material Dollar Amounts	No. Immaterial Dollar Amounts	Bog Index
1997	2,813	31,303	559	342	81.15
1998	3,354	31,712	590	376	81.85
1999	2,994	31,371	621	410	80.67
2000	2,886	32,737	645	443	80.32
2001	2,710	36,695	709	486	81.76
2002	2,678	40,706	791	563	83.12
2003	2,546	42,826	842	633	83.27
2004	2,483	41,867	866	683	84.01
2005	2,334	42,175	887	733	84.74
2006	2,476	44,284	927	781	84.85
2007	2,455	46,575	921	786	85.51
2008	2,470	50,120	941	769	85.99
2009	2,299	48,274	979	821	85.99
2010	2,245	49,311	984	864	85.88
2011	2,199	49,394	987	857	86.11
2012	2,184	49,217	1,001	832	86.17
2013	2,171	50,883	1,004	824	86.73
2014	2,247	51,448	1,000	798	87.51
	Percent Change:	64%	79%	134%	8%

Panel C: Immaterial Dollar Amounts and Litigation Risk by Industry

2-digit SIC	No. Immaterial Dollar Amounts	Litigation Risk
49: Electric, Gas, & Sanitary Services	1,352	2.5%
48: Communications	916	2.7%
13: Oil & Gas Extraction	870	2.7%
37: Transportation Equipment	747	2.4%
Industries with less than 2%	697	2.6%
20: Food & Kindred Products	661	2.0%
35: Industrial Machinery & Equipment	612	2.8%
80: Health Services	591	1.9%
28: Chemical & Allied Products	582	2.8%
59: Miscellaneous Retail	575	3.9%
73: Business Services	571	3.1%
36: Electronic & Other Electric Equipment	560	3.5%
50: Wholesale Trade – Durable Goods	536	2.2%
87: Engineering & Management Services	531	2.0%
38: Instruments & Related Products	486	1.5%

Table 2 Panel A presents descriptive statistics for the variables used in this study. Variables are defined in Appendix A. Panel B presents the sample distribution and select annual report attributes by year. Panel C presents immaterial dollar amounts and ex-ante litigation risk (LitRisk) averaged by industry. The industries in this panel are sorted from highest to lowest number of immaterial dollar amounts. The number of material and immaterial dollar amounts in Panels B and C are based on a threshold of 0.5% of total assets.

TABLE 3: Correlation Coefficients

	Log Immat	*Log Immni*	*Log Immsale*	*PostSox*	*FinCrisis*	*LitRisk*	*EQ_PCM*	*CEO Tenure*	*Vega*	*Delta*	*Size*	*BTM*	*Beta*	*Lev*	*ROA*	*LnWords*	*BogIndex*
LogImmat		0.922	0.968	0.393	0.118	0.334	-0.293	-0.067	0.209	0.025	0.628	-0.108	0.355	0.266	0.173	0.595	0.246
LogImmni	0.915		0.877	0.380	0.125	0.330	-0.150	-0.061	0.222	0.056	0.567	-0.176	0.357	0.206	-0.013	0.578	0.272
LogImmsale	0.968	0.870		0.385	0.120	0.325	-0.309	-0.075	0.201	0.021	0.609	-0.099	0.327	0.240	0.239	0.554	0.182
PostSox	0.399	0.387	0.394		0.230	0.074	-0.150	*0.005*	0.053	-0.072	0.238	-0.075	0.267	-0.040	0.068	0.363	0.277
FinCrisis	0.122	0.128	0.125	0.230		0.049	-0.025	-0.018	-0.033	-0.067	0.013	0.077	0.045	*0.001*	-0.024	0.131	0.096
LitRisk	0.505	0.480	0.494	0.151	0.070		-0.055	-0.022	0.250	0.182	0.502	-0.139	0.384	0.038	0.087	0.273	0.125
EQ_PCM	-0.357	-0.227	-0.360	-0.166	-0.020	-0.206		-0.022	-0.155	-0.045	-0.368	-0.061	-0.036	-0.130	-0.453	-0.080	0.041
CEOTenure	-0.047	-0.042	-0.056	0.026	*-0.010*	*-0.006*	-0.027		0.049	0.268	-0.025	*0.003*	0.031	-0.041	0.038	-0.070	*-0.012*
Vega	0.219	0.216	0.211	0.038	-0.032	0.348	-0.168	0.056		0.367	0.537	-0.178	-0.102	0.015	0.137	0.161	0.032
Delta	0.097	0.131	0.085	-0.044	-0.126	0.356	-0.142	0.322	0.585		0.334	-0.187	*0.005*	-0.043	0.133	-0.015	-0.077
Size	0.644	0.577	0.628	0.242	0.016	0.684	-0.440	-0.014	0.571	0.622		-0.390	0.425	0.109	0.354	0.423	0.169
BTM	-0.059	-0.164	-0.043	-0.040	0.087	-0.192	-0.064	*-0.013*	-0.200	-0.393	-0.369		-0.210	-0.095	0.032	-0.128	-0.133
Beta	0.387	0.384	0.358	0.290	0.049	0.490	-0.066	0.043	-0.068	-0.020	0.480	-0.225		*0.005*	0.032	0.303	0.237
Lev	0.316	0.236	0.305	-0.044	*-0.006*	0.138	-0.225	-0.032	0.083	*-0.013*	0.176	-0.036	-0.009		-0.024	0.221	*0.004*
ROA	0.100	0.061	0.163	0.058	-0.038	0.191	-0.295	0.052	0.159	0.340	0.423	-0.149	0.057	-0.080		-0.044	-0.167
LnWords	0.595	0.578	0.555	0.358	0.134	0.399	-0.142	-0.048	0.159	0.030	0.429	-0.124	0.322	0.233	-0.086		0.392
BogIndex	0.244	0.268	0.185	0.271	0.096	0.183	0.018	*0.006*	0.057	-0.057	0.175	-0.136	0.244	-0.028	-0.177	0.382	

Table 3 presents correlation coefficients for the variables used in this study, with Pearson correlations above and Spearman correlations below the diagonal. Correlation coefficients that are not significant at the 10% level are in italics. Otherwise, all correlation coefficients are significant at the 10% level or better. Variables are defined in Appendix A.

TABLE 4: Macroeconomic Determinants of Immaterial Disclosure

Panel A: Macroeconomic Determinants of Immaterial Disclosure

			(1a)	(1b)	(1c)	(2a)	(2b)	(2c)	(3a)	(3b)	(3c)
			DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale
Variable		**Pred.**	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*
PostSox	**H1A**	+	0.6046 ***	0.5592 ***	0.5795 ***				0.5959 ***	0.5472 ***	0.5763 ***
			(60.2313)	*(58.0044)*	*(37.7016)*				(60.5424)	(57.6748)	(38.4682)
FinCrisis	**H1B**	+				0.2720 ***	0.2759 ***	0.2294 ***	0.0564 ***	0.0779 ***	0.0208
						(28.3844)	*(28.9825)*	*(12.3697)*	*(6.8020)*	*(9.1931)*	*(1.2005)*
N			45,544	45,544	45,544	45,544	45,544	45,544	45,544	45,544	45,544
Adj. R^2			0.15	0.14	0.06	0.01	0.01	0.00	0.15	0.14	0.06
Industry FE			No	No	No	No	No	No	No	No	No
Firm FE			No	No	No	No	No	No	No	No	No
Year FE			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Panel B: Macroeconomic Determinants with Controls

			(4a)		(4b)		(4c)		(5a)		(5b)		(5c)	
			DV = LogImmat		DV = LogImmni		DV = LogImmsale		DV = LogImmat		DV = LogImmni		DV = LogImmsale	
Variable		**Pred.**	Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*	
PostSox	**H1A**	+	0.2699	***	0.2528	***	0.2439	***	0.3442	***	0.3292	***	0.3690	***
			(33.1874)		*(30.4468)*		*(17.5791)*		*(43.9593)*		*(40.0843)*		*(28.3493)*	
FinCrisis	**H1B**	+	0.0426	***	0.0644	***	0.0470	***	0.0421	***	0.0620	***	0.0551	***
			(6.5894)		*(8.9724)*		*(3.4390)*		*(7.6723)*		*(9.4962)*		*(5.5730)*	
Size			0.1573	***	0.1466	***	0.1493	***	0.1144	***	0.1034	***	0.0825	***
			(52.2340)		*(48.6877)*		*(32.3664)*		*(23.0546)*		*(19.3141)*		*(10.1317)*	
BTM			0.1695	***	0.0904	***	0.1700	***	0.1224	***	0.0709	***	0.0835	***
			(23.7092)		*(12.5667)*		*(15.1834)*		*(18.8886)*		*(10.0300)*		*(8.0701)*	
Beta			0.0664	***	0.0712	***	0.0697	***	0.0515	***	0.0581	***	0.0591	***
			(10.3988)		*(11.1300)*		*(6.1351)*		*(10.1573)*		*(10.4782)*		*(5.6309)*	
Lev			0.5092	***	0.3063	***	0.7296	***	0.2987	***	0.1451	***	0.4224	***
			(20.2339)		*(12.7494)*		*(16.8486)*		*(11.8482)*		*(5.6183)*		*(9.3614)*	
ROA			-0.0452	***	-0.4445	***	0.5475	***	-0.0406	***	-0.3983	***	0.1179	***
			(-3.1870)		*(-32.6861)*		*(12.4566)*		*(-3.3012)*		*(-28.6722)*		*(2.7736)*	
LnWords			0.3311	***	0.3119	***	0.3434	***	0.2060	***	0.1976	***	0.2246	***
			(42.7387)		*(40.1779)*		*(27.4974)*		*(32.0395)*		*(28.8048)*		*(22.4031)*	
N			45,544		45,544		45,544		45,544		45,544		45,544	
Adj. R^2			0.59		0.52		0.40		0.33		0.27		0.15	
Industry FE			Yes		Yes		Yes		No		No		No	
Firm FE			No		No		No		Yes		Yes		Yes	
Year FE			N/A		N/A		N/A		N/A		N/A		N/A	

Table 4 presents results for my tests of H1A and H1B, which examine the association between macroeconomic events and the level of immaterial disclosure in the annual report. The dependent variable in these regressions is one of three "immateriality" measures (based on total assets, net income, or sales). Panel A presents the results of regressions with each macroeconomic variable of interest (PostSox or FinCrisis) separately and together, excluding controls. Panel B presents the results of regressions with controls and industry or firm fixed effects. T-statistics are presented below coefficients and are based on robust standard errors clustered by firm. ***, **, * indicate significance at the one percent, five percent, and ten percent levels respectively. Variables are defined in Appendix A.

TABLE 5: Firm Level Determinants of Immaterial Disclosure

Panel A: Firm Level Determinants of Immaterial Disclosure

			(1a)	(1b)	(1c)	(2a)	(2b)	(2c)	(3a)	(3b)	(3c)
			DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale
Variable		Pred.	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*
LitRisk	**H2A**	+	9.5654 ***	9.2211 ***	9.2464 ***				9.0416 ***	8.9922 ***	8.6223 ***
			(32.7384)	*(33.5640)*	*(31.9541)*				*(30.3926)*	*(30.8129)*	*(29.1105)*
EQ_PCM	**H2B**	+				-0.1796 ***	-0.0899 ***	-0.1883 ***	-0.1688 ***	-0.0792 ***	-0.1781 ***
						(-29.5769)	*(-14.9745)*	*(-32.0775)*	*(-30.0527)*	*(-14.1716)*	*(-32.9629)*
N			38,035	38,035	38,035	30,614	30,614	30,614	30,614	30,614	30,614
Adj. R^2			0.11	0.11	0.11	0.09	0.02	0.10	0.19	0.13	0.19
Industry FE			No	No	No	No	No	No	No	No	No
Year FE			No	No	No	No	No	No	No	No	No

Panel B: Individual Earnings Quality Determinants

			(4a)	(4b)	(4c)	(5a)	(5b)	(5c)	(6a)	(6b)	(6c)	(7a)	(7b)	(7c)
			DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale
Variable		Pred.	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*
AbsDA	**H2B**	+	-1.2853 ***	-0.3426 ***	-1.3908 ***									
			(-25.2568)	*(-6.7374)*	*(-28.1141)*									
AQ	**H2B**	+				-5.6866 ***	-3.5278 ***	-5.8291 ***						
						(-28.9387)	*(-18.3079)*	*(-30.4341)*						
MB1	**H2B**	+							-0.2982 ***	-0.2919 ***	-0.3152 ***			
									(-8.5632)	*(-8.4401)*	*(-9.0491)*			
Restate	**H2B**	+										0.2201 ***	0.1679 ***	0.2104 ***
												(5.8386)	*(4.6946)*	*(5.6000)*
N			38,035	38,035	38,035	30,615	30,615	30,615	38,033	38,033	38,033	38,035	38,035	38,035
Adj. R^2			0.03	0.002	0.04	0.09	0.04	0.10	0.002	0.002	0.002	0.002	0.001	0.002
Industry FE			No	No	No	No	No	No	No	No	No	No	No	No
Year FE			No	No	No	No	No	No	No	No	No	No	No	No

Panel C: Firm Level Determinants with Controls

			(8a)		(8b)		(8c)		(9a)		(9b)		(9c)	
			DV = LogImmat		DV = LogImmni		DV = LogImmsale		DV = LogImmat		DV = LogImmni		DV = LogImmsale	
Variable		Pred.	Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*	
LitRisk	**H2A**	+	0.1136		0.3389	*	0.0150		0.6746	***	1.0105	***	0.7271	***
			(0.5987)		*(1.7628)*		*(0.0742)*		*(5.0837)*		*(6.6121)*		*(5.6221)*	
EQ_PCM	**H2B**	+	-0.0226	***	0.0145	***	-0.0181	***	0.0016		0.0385	***	0.0006	
			(-5.5599)		*(3.5058)*		*(-4.0383)*		*(0.4610)*		*(9.6838)*		*(0.1800)*	
Size			0.1515	***	0.1521	***	0.1400	***	0.0877	***	0.0869	***	0.0507	***
			(38.0506)		*(37.7748)*		*(34.1965)*		*(12.6703)*		*(11.6070)*		*(7.6803)*	
BTM			0.1623	***	0.0822	***	0.1384	***	0.0983	***	0.0437	***	0.0485	***
			(16.1491)		*(8.1177)*		*(12.4386)*		*(11.3239)*		*(4.5154)*		*(5.9113)*	
Beta			0.0563	***	0.0474	***	0.0369	***	0.0261	***	0.0248	***	0.0235	***
			(6.8578)		*(5.7084)*		*(4.1673)*		*(4.1165)*		*(3.5435)*		*(3.7086)*	
Lev			0.5584	***	0.3498	***	0.5355	***	0.2888	***	0.1104	***	0.2282	***
			(17.8634)		*(11.4882)*		*(15.3961)*		*(8.7220)*		*(3.2394)*		*(7.2169)*	
ROA			*-0.0459*	**	*-0.4601*	***	*0.1393*	***	*-0.0454*	**	*-0.4408*		*0.0073*	
			(-2.1371)		*(-22.6507)*		*(6.0149)*		*(-2.5686)*		*(-22.7479)*		*(0.4087)*	
LnWords			0.3335	***	0.2990	***	0.3308	***	0.1786	***	0.1649	***	0.1724	***
			(35.3497)		*(31.3013)*		*(33.3287)*		*(22.6581)*		*(19.1841)*		*(22.5244)*	
N			30,614		30,614		30,614		30,614		30,614		30,614	
Adj. R^2			0.61		0.54		0.58		0.38		0.31		0.37	
Industry FE			Yes		Yes		Yes		No		No		No	
Firm FE			No		No		No		Yes		Yes		Yes	
Year FE			Yes		Yes		Yes		Yes		Yes		Yes	

Table 5 presents results for my tests of H2A and H2B, which examine the association between firm level characteristics and the level of immaterial disclosure in the annual report. The dependent variable in these regressions is one of three "immateriality" measures (based on total assets, net income, or sales). Panel A presents the results of regressions with each firm level characteristic (litigation risk or a principal component measure constructed from earnings quality proxies) separately and together, excluding controls. Panel B presents the results of separate regressions with each earnings quality proxy underlying the principal component measure used in Panel A. Panel C presents the results of regressions with controls and industry or firm fixed effects. T-statistics are presented below coefficients and are based on robust standard errors clustered by firm. ***, **, * indicate significance at the one percent, five percent, and ten percent levels respectively. Variables are defined in Appendix A.

TABLE 6: Manager Level Determinants of Immaterial Disclosure

Panel A: Manager Level Determinants of Immaterial Disclosure

			(1a)	(1b)	(1c)	(2a)	(2b)	(2c)	(3a)	(3b)	(3c)
			DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale	DV = LogImmat	DV = LogImmni	DV = LogImmsale
Variable		Pred.	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*
CEOtenure	**H3A**	-	-0.0058 ***	-0.0052 ***	-0.0061 ***				-0.0067 ***	-0.0062 ***	-0.0069 ***
			(-3.8200)	*(-3.5236)*	*(-4.1962)*				*(-4.6927)*	*(-4.4605)*	*(-5.0490)*
Vega	**H3B**	+				0.0006 ***	0.0006 ***	0.0006 ***	0.0006 ***	0.0007 ***	0.0006 ***
						(10.9071)	*(12.3593)*	*(10.7827)*	*(11.1998)*	*(12.6334)*	*(11.1098)*
N			14,947	14,947	14,947	14,947	14,947	14,947	14,947	14,947	14,947
Adj. R^2			0.004	0.004	0.006	0.04	0.05	0.04	0.05	0.05	0.05
Industry FE			No	No	No	No	No	No	No	No	No
Year FE			No	No	No	No	No	No	No	No	No

Panel B: Manager Level Determinants with Controls

Variable		Pred.	(4a) DV = LogImmat Coefficient *(t-statistic)*		(4b) DV = LogImmni Coefficient *(t-statistic)*		(4c) DV = LogImmsale Coefficient *(t-statistic)*		(5a) DV = LogImmat Coefficient *(t-statistic)*		(5b) DV = LogImmni Coefficient *(t-statistic)*		(5c) DV = LogImmsale Coefficient *(t-statistic)*	
CEOtenure	**H3A**	-	-0.0019	*	-0.0023	**	-0.0026	**	-0.0003		0.0003		-0.0005	
			(-1.8845)		*(-2.2698)*		*(-2.5712)*		*(-0.3410)*		*(0.2711)*		*(-0.5481)*	
Vega	**H3B**	+	0.0000		0.0001		0.0000		0.0001	***	0.0001	***	0.0001	***
			(0.8415)		*(1.6185)*		*(0.8970)*		*(2.8258)*		*(2.6424)*		*(2.5943)*	
Delta			-0.0000		0.0000		-0.0000		-0.0000		0.0000		-0.0000	
			(-0.8001)		*(0.7520)*		*(-1.0065)*		*(-0.9510)*		*(0.1549)*		*(-0.8956)*	
Size			1.0154	***	0.9227	***	0.8820	***	0.5170	***	0.4927	***	0.2330	***
			(22.0707)		*(19.4313)*		*(18.5963)*		*(6.7780)*		*(5.8594)*		*(3.2442)*	
BTM			0.3231	***	0.1212	***	0.2839	***	0.1417	***	0.0029		0.0703	***
			(16.9950)		*(6.2894)*		*(14.2121)*		*(7.8818)*		*(0.1392)*		*(4.1190)*	
Beta			0.0417	***	0.0278	**	0.0243	*	0.0365	***	0.0432	***	0.0308	***
			(3.3438)		*(2.1279)*		*(1.8826)*		*(3.2984)*		*(3.4210)*		*(2.8195)*	
Lev			0.6191	***	0.3253	***	0.5575	***	0.3596	***	0.0902	*	0.2496	***
			(13.2505)		*(7.1320)*		*(11.4270)*		*(7.7414)*		*(1.7767)*		*(5.3203)*	
ROA			-0.2965	***	-0.5927	***	-0.0871		-0.1135	***	-0.5314	***	0.0027	
			(-4.7738)		*(-10.3504)*		*(-1.1981)*		*(-2.6569)*		*(-9.3755)*		*(0.0638)*	
LnWords			0.3031	***	0.2585	***	0.2901	***	0.1540	***	0.1342	***	0.1481	***
			(23.8572)		*(20.5428)*		*(22.3707)*		*(16.3234)*		*(12.6942)*		*(16.1247)*	
N			14,947		14,947		14,947		14,947		14,947		14,947	
Adj. R^2			0.57		0.46		0.52		0.47		0.35		0.47	
Industry FE			Yes		Yes		Yes		No		No		No	
Firm FE			No		No		No		Yes		Yes		Yes	
Year FE			Yes		Yes		Yes		Yes		Yes		Yes	

Table 6 presents results for my tests of H3A and H3B, which examine the association between manager level characteristics and the level of immaterial disclosure in the annual report. The dependent variable in these regressions is one of three "immateriality" measures (based on total assets, net income, or sales). Panel A presents the results of regressions with each manager level characteristic (CEO tenure or vega) separately and together, excluding controls. Panel C presents the results of regressions with controls and industry or firm fixed effects. T-statistics are presented below coefficients and are based on robust standard errors clustered by firm. ***, **, * indicate significance at the one percent, five percent, and ten percent levels respectively. Variables are defined in Appendix A.

TABLE 7: All Determinants of Immaterial Disclosure

			(1a)		(1b)		(1c)	
			DV = LogImmat		DV = LogImmni		DV = LogImmsale	
Variable		Pred.	Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*	
PostSox	**H1A**	+	0.4323 *(27.9675)*	***	0.4418 *(26.4806)*	***	0.4296 *(28.6919)*	***
FinCrisis	**H1B**	+	0.0347 *(4.2745)*	***	0.0544 *(5.3024)*	***	0.0418 *(5.3808)*	***
LitRisk	**H2A**	+	0.8669 *(4.8086)*	***	1.2959 *(5.8154)*	***	0.8251 *(4.5713)*	***
EQ_PCM	**H2B**	+	-0.0135 *(-1.6951)*	*	0.0511 *(5.3019)*	***	-0.0137 *(-1.6831)*	*
CEOtenure	**H3A**	-	0.0006 *(0.5643)*		0.0016 *(1.2912)*		0.0007 *(0.6441)*	
Vega	**H3B**	+	0.0002 *(3.4269)*	***	0.0002 *(3.1299)*	***	0.0001 *(3.0450)*	***
Delta			-0.0000 *(-2.6531)*	***	-0.0000 *(-1.4653)*		-0.0000 *(-2.5068)*	**
Size			0.7252 *(9.3455)*	***	0.6367 *(7.0881)*	***	0.4561 *(6.2218)*	***
BTM			0.1816 *(9.5328)*	***	0.0465 *(1.9721)*	**	0.1167 *(6.5431)*	***
Beta			0.0440 *(3.5416)*	***	0.0209 *(1.4779)*		0.0402 *(3.3049)*	***
Lev			0.3943 *(7.4180)*	***	0.1103 *(1.9131)*	*	0.2687 *(5.2124)*	***
ROA			-0.1143 *(-2.3623)*	**	-0.4058 *(-6.2833)*	***	0.0028 *(0.0555)*	
LnWords			0.1906 *(16.3776)*	***	0.1741 *(13.3951)*	***	0.1903 *(16.7849)*	***
N			11,284		11,284		11,284	
Adj. R^2			0.41		0.29		0.40	
Industry FE			No		No		No	
Firm FE			Yes		Yes		Yes	
Year FE			N/A		N/A		N/A	

Table 7 presents results for tests that examine the association between macroeconomic, firm level, and manager level characteristics and the level of immaterial disclosure in the annual report. The dependent variable in these regressions is one of three "immateriality" measures (based on total assets, net income, or sales). All identified determinants and firm fixed effects are included in the regressions. T-statistics are presented below coefficients and are based on robust standard errors clustered by firm. ***, **, * indicate significance at the one percent, five percent, and ten percent levels respectively. Variables are defined in Appendix A.

TABLE 8: All Determinants of Immaterial Disclosure

			(1a)		(1b)		(1c)	
			DV = PctImmat		DV = PctImmni		DV = PctImmsale	
Variable		Pred.	Coefficient *(t-statistic)*		Coefficient *(t-statistic)*		Coefficient *(t-statistic)*	
PostSox	**H1A**	+	0.0328	***	0.0332	***	0.0362	***
			(11.8043)		*(9.7940)*		*(12.6518)*	
FinCrisis	**H1B**	+	0.0030	*	0.0098	***	0.0070	***
			(1.7760)		*(3.7823)*		*(3.9270)*	
LitRisk	**H2A**	+	0.1358	***	0.2939	***	0.1278	***
			(3.7680)		*(5.3991)*		*(3.3966)*	
EQ_PCM	**H2B**	+	-0.0029	*	0.0219	***	-0.0033	*
			(-1.9457)		*(8.9917)*		*(-1.8776)*	
CEOtenure	**H3A**	-	0.0001		0.0003		0.0001	
			(0.3767)		*(1.3223)*		*(0.3599)*	
Vega	**H3B**	+	0.0000	***	0.0000	**	0.0000	***
			(4.7476)		*(2.3932)*		*(3.0027)*	
Delta			-0.0000	*	0.0000		-0.0000	
			(-1.6980)		*(0.2677)*		*(-1.4142)*	
Size			0.1320	***	0.0886	***	0.0113	
			(8.4141)		*(4.4961)*		*(0.6939)*	
BTM			0.0377	***	-0.0118	**	0.0096	**
			(9.8100)		*(-2.2279)*		*(2.3971)*	
Beta			0.0060	**	-0.0011		0.0058	**
			(2.4687)		*(-0.3480)*		*(2.2011)*	
Lev			0.0305	***	-0.0814	***	-0.0287	***
			(2.8442)		*(-6.2263)*		*(-2.6050)*	
ROA			0.0223	**	-0.1147	***	0.0793	***
			(2.3156)		*(-5.9302)*		*(7.1431)*	
LnWords			0.0133	***	0.0060	**	0.0138	***
			(6.7570)		*(2.4212)*		*(6.6782)*	
N			11,284		11,284		11,284	
Adj. R^2			0.15		0.09		0.11	
Industry FE			No		No		No	
Firm FE			Yes		Yes		Yes	
Year FE			N/A		N/A		N/A	

Table 8 presents results for tests that examine the association between macroeconomic, firm level, and manager level characteristics and the percentage of immaterial disclosure in the annual report. The dependent variable in these regressions is one of three "immateriality" measures (based on total assets, net income, or sales). All identified determinants and firm fixed effects are included in the regressions. T-statistics are presented below coefficients and are based on robust standard errors clustered by firm. ***, **, * indicate significance at the one percent, five percent, and ten percent levels respectively. Variables are defined in Appendix A.

CHAPTER 6

ADDITIONAL ANALYSES

Capital Market Consequences of Immaterial Disclosure

As previously mentioned, the FASB and SEC are concerned that firms disclose such a high level of immaterial information in annual reports that it is difficult for investors to identify and process material information. Some prior research suggests that acquiring and processing information can be costly for investors, which may prevent that information from being fully impounded into stock prices (e.g., Grossman and Stiglitz 1980; Bloomfield 2002; Hirshleifer and Teoh 2003). Building on this notion, a more recent stream of literature examines capital market consequences of textual disclosure readability in annual reports. These studies generally find that long, complex (i.e., low readability) annual reports are associated with a variety of negative outcomes, such as: greater stock return volatility (Loughran and McDonald 2014), greater stock return drift (You and Zhang 2009; Lee 2012), higher cost of debt capital (Bonsall and Miller 2017), lower small investor holdings and trading (Miller 2010; Lawrence 2013), and lower accuracy and greater dispersion in analysts' forecasts (Lehavy et al. 2011).

Rather than focusing on textual qualitative disclosure, I examine immaterial quantitative disclosure to more directly address regulators' concerns. To examine the association between immaterial disclosure and capital market consequences, I estimate the following regression with robust standard errors clustered by firm:

$$\begin{aligned} \textit{Capital Market Consequence}_{i,t+1} = \\ & \lambda_0 + \lambda_1 \textit{LogMaterial}_{i,t} + \lambda_2 \textit{LogImmaterial}_{i,t} + \lambda_3 \textit{LagConsequence}_{i,t} + \lambda_4 \textit{LnWords}_{i,t} + \\ & \lambda_5 \textit{BogIndex}_{i,t} + \lambda_6 \textit{ROA}_{i,t} + \lambda_7 \textit{dROA}_{i,t+1} + \lambda_8 \textit{Size}_{i,t} + \lambda_9 \textit{Lev}_{i,t} + \lambda_{10} \textit{BTM}_{i,t} + \lambda_{11} \textit{PctIO}_{i,t} \\ & + \lambda_{12} \textit{BigN}_{i,t} + \lambda_{13} \textit{Loss}_{i,t} + \lambda_{14} \textit{LnNumEst}_{i,t} + \text{Industry Fixed Effects} + \text{Year Fixed} \\ & \text{Effects} + \varepsilon_{i,t} \end{aligned} \quad (5).$$

Capital Market Consequence is one of four variables: stock return volatility, beta, share turnover, or bid-ask spread. These variables are measured over the 240 trading days *following* the 10-K file date. See Appendix A for specific variable definitions. I use these variables to capture investors' uncertainty in assessing firm value. If, consistent with regulators' concerns, immaterial disclosure makes the overall annual report more difficult for investors to process, I expect the level of immaterial information to be positively associated with these capital market consequences (i.e., $\lambda_2 > 0$). I also include the level of *material* disclosure. Relative to qualitative disclosure, quantitative disclosure is expected to be more precise, reliable, and credible (Botosan 1997; Lundholm et al. 2014), and therefore I expect material quantitative disclosure to increase investors' certainty in assessing firm value. That is, I expect the level of material disclosure to be negatively associated with these capital market consequences (i.e., $\lambda_1 < 0$).[18]

I include several control variables that could be associated with a firm's disclosure decisions and capital market consequences. First, I control for the lagged value of the dependent variable. Controlling for the pre-disclosure level of uncertainty allows me to better assess how immaterial disclosure is associated with a *change* in investors' uncertainty. I also control for 10-K length (*LnWords*) and readability (*BogIndex*; Bonsall, Leone, Miller, and Rennekamp 2017) to

[18] I use share turnover (i.e., trading volume) to capture the level of disagreement between investors (e.g., Beaver 1968; Bamber, Barron, and Stevens 2011). If immaterial disclosure is difficult for investors to process, I expect investors to be more uncertain in their assessments of firm value, resulting in more disagreement between investors (and higher turnover). Alternatively, investors may choose not to process complex disclosures (Miller 2010), which could result in a negative association between share turnover and immaterial disclosure in the annual report.

ensure the effect of immaterial disclosure is incremental to the effect of disclosure readability documented in prior literature. The remaining control variables capture firm attributes that prior research finds are associated with firm disclosure and capital market outcomes.[19]

Table 9 Panel A presents the results of estimating Equation (5) for each immateriality threshold and capital market consequence (*StdRet*, *Beta*, *Turnover*, and *Spread*). Consistent with expectations, the level of *material* disclosure is generally negatively associated with stock return volatility, turnover, and bid-ask spread, suggesting that material quantitative disclosure reduces investors' uncertainty in assessing firm value. Consistent with regulator concerns, the level of *immaterial* disclosure is generally positively associated with stock return volatility, beta, and bid-ask spread, suggesting that immaterial disclosure may be difficult for investors to process.

Table 9 Panel B presents the results of estimating Equation (5) after also including the six determinants identified previously (*PostSox*, *FinCrisis*, *LitRisk*, *EQ_PCM*, *CEOtenure*, and *Vega*). By controlling for the previously identified determinants, the immateriality measures in Panel B of Table 9 should represent an "unexpected" level of immaterial disclosure. Material disclosure continues to be negatively associated with stock return volatility and bid-ask spread, suggesting that material quantitative disclosure helps reduce uncertainty and/or information asymmetry. Furthermore, there is evidence that *immaterial* disclosure is positively associated with stock return volatility and bid-ask spread. Taken together, the results in Table 9 lend credence to regulators' concerns that immaterial disclosure is difficult for investors to process.

In untabulated analyses, I estimate the same regressions (Equation (5) and Equation (5) plus all determinants) using *lower* materiality thresholds. That is, I classify dollar amounts as

[19] I also control for the inverse of the fiscal year-end stock price when bid-ask spread is the dependent variable (Campbell, Chen, Dhaliwal, Lu, and Steele 2014).

immaterial if they are either below 0.25% of total assets, 2.50% of the absolute value of net income, or 0.5% of sales. The results are qualitatively similar to those reported in Table 9.[20]

I also estimate Equation (5) with all determinants using the percent immaterial measures (*PctImmaterial*) in place of *LogMaterial* and *LogImmaterial*. In untabulated analyses, I find that the percent of immaterial dollar amounts is associated with higher stock return volatility and bid-ask spread. These results are also robust to using the lower materiality thresholds.

[20] Specifically, I generally find a positive association between immaterial disclosure and stock return volatility, and a negative association for material disclosure, regardless of whether the additional determinants are included in the model. I typically find a positive association between immaterial disclosure and beta, and a negative association between material disclosure and turnover, only when the additional determinants are *excluded* from the model. Finally, I generally find a positive association between immaterial disclosure and bid-ask spread, and a negative association for material disclosure, when the additional determinants are *included* in the model.

TABLE 9: Capital Market Consequences of Immaterial Disclosure

Panel A: Consequences of Immaterial Disclosure, Excluding Identified Determinants

	(1a)	(1b)	(1c)	(1d)	(2a)	(2b)	(2c)	(2d)	(3a)	(3b)	(3c)	(3d)
	DV = StdRet	DV = Beta	DV = Turnover	DV = Spread	DV = StdRet	DV = Beta	DV = Turnover	DV = Spread	DV = StdRet	DV = Beta	DV = Turnover	DV = Spread
Variable	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*
LogMat	-0.0126 ***	-0.0234 ***	-0.0002 ***	-0.0178								
	(-3.0584)	*(-2.8286)*	*(-2.7014)*	*(-0.9829)*								
LogImmat	0.0002	0.0205 ***	0.0000	0.0059								
	(0.0532)	*(3.3613)*	*(0.2134)*	*(0.4537)*								
LogMni					-0.0183 ***	-0.0073	-0.0003 ***	-0.0343 **				
					(-5.2684)	*(-1.0320)*	*(-3.7919)*	*(-2.2526)*				
LogImmni					0.0067 ***	0.0087 *	0.0001 *	0.0210 *				
					(2.7138)	*(1.6821)*	*(1.8866)*	*(1.8859)*				
LogMsale									-0.0185 ***	-0.0085	-0.0001	-0.0731 ***
									(-5.0826)	*(-1.1755)*	*(-0.7419)*	*(-4.4715)*
LogImmsale									0.0045 *	0.0056	-0.0001 **	0.0491 ***
									(1.6657)	*(1.0011)*	*(-2.3259)*	*(4.0988)*
Observations	38,791	38,791	38,678	38,678	38,791	38,791	38,678	38,678	38,791	38,791	38,678	38,678
Adj. R^2	0.69	0.52	0.57	0.73	0.69	0.52	0.57	0.73	0.69	0.52	0.57	0.73
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged DV as Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Consequences of Immaterial Disclosure, Including Identified Determinants

	(1a)	(1b)	(1c)	(1d)	(2a)	(2b)	(2c)	(2d)	(3a)	(3b)	(3c)	(3d)
	DV = StdRet	DV = Beta	DV = Turnover	DV = Spread	DV = StdRet	DV = Beta	DV = Turnover	DV = Spread	DV = StdRet	DV = Beta	DV = Turnover	DV = Spread
Variable	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*	Coefficient *(t-statistic)*
LogMat	-0.0153 ***	-0.0182	-0.0003 **	-0.0306 **								
	(-2.8681)	*(-1.3463)*	*(-2.0962)*	*(-1.9930)*								
LogImmat	0.0113 ***	0.0059	0.0002 **	0.0129								
	(3.0754)	*(0.6035)*	*(2.0037)*	*(1.1559)*								
LogMni					-0.0156 ***	0.0047	-0.0000	-0.0414 ***				
					(-3.4994)	*(0.4126)*	*(-0.1159)*	*(-3.1805)*				
LogImmni					0.0130 ***	-0.0119	0.0000	0.0243 **				
					(4.1870)	*(-1.4842)*	*(0.4778)*	*(2.5570)*				
LogMsale									-0.0156 ***	-0.0008	-0.0001	-0.0534 ***
									(-3.2900)	*(-0.0671)*	*(-0.5141)*	*(-3.5846)*
LogImmsale									0.0119 ***	-0.0079	0.0000	0.0285 ***
									(3.3592)	*(-0.7835)*	*(0.3018)*	*(2.6163)*
Observations	10,751	10,751	10,666	10,666	10,751	10,751	10,666	10,666	10,751	10,751	10,666	10,666
Adj. R^2	0.59	0.54	0.72	0.75	0.59	0.54	0.72	0.75	0.59	0.54	0.72	0.75
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged DV as Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Determinants	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 9 presents results for tests that examine the association between different capital market consequences and immaterial disclosure. The dependent variable in these regressions is one of four capital market consequences: stock return volatility (StdRet), beta (Beta), share turnover (Turnover), or bid-ask spread (Spread). I examine the association between each consequence and each of the three "immateriality" measures (based on total assets, net income, or sales). These regressions include controls identified in the prior literature that may be associated with a firm's disclosure practices and these capital market consequences. Each regression also includes the lagged dependent variable as a control. Panel A does not include the determinants identified in tables 4-6. Panel B includes the determinants identified in tables 4-6. T-statistics are presented below coefficients and are based on robust standard errors clustered by firm. ***, **, * indicate significance at the one percent, five percent, and ten percent levels respectively. Variables are defined in Appendix A.

CHAPTER 7

CONCLUSION

Regulators are working to improve the effectiveness of annual report disclosures, with a specific focus on "disclosure overload," or the concern that the volume of information disclosed makes it difficult for investors to identify and price relevant information (FASB 2014; SEC 2016). One significant concern is the level of *immaterial* information disclosed in annual reports (FASB 2015a; SEC 2017). In this study, I provide evidence on the prevalence of immaterial quantitative disclosure in annual reports and examine *why* managers disclose this information. I find that the level of immaterial disclosure is associated with macroeconomic uncertainty and related regulatory changes, firm-level litigation risk, and manager-level risk-aversion. This evidence suggests that managers disclose immaterial information to mitigate the expected costs of *non*disclosure. I also examine several capital market consequences of immaterial disclosure and find that the level of immaterial disclosure is associated with higher stock return volatility and bid-ask spread. Overall, my results can inform regulators in their efforts to reduce immaterial disclosure and improve overall disclosure usefulness for investors. The results suggests that encouraging firms to reduce immaterial disclosure without addressing the underlying factors that drive these disclosures may not result in improved capital market outcomes.

Finally, it is important to caveat that these results reflect statistical associations between immaterial disclosure and macroeconomic-, firm-, and manager-level characteristics. I include firm fixed effects in the analyses to control for unobservable, time-invariant firm characteristics that may be correlated with immaterial disclosure and the characteristics of interest. However, I

cannot definitively ascribe causality to these results due to possibility of a correlated omitted variable.

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APPENDIX A

VARIABLE DEFINITIONS

LogImmaterial	The natural log of the count of immaterial dollar amounts in the annual report. I create three measures based on three materiality thresholds: 0.5% of total assets, 5% of the absolute value of net income, or 1% of sales. If a dollar amount is below a particular threshold, I classify it as immaterial.
LogMaterial	The natural log of the count of material dollar amounts in the annual report. I create three measures based on the three materiality thresholds described above. If a dollar amount is above a particular threshold, I classify it as material.
PctImmaterial	The percentage of immaterial dollar amounts in the annual report relative to all dollar amounts in the annual report. Specifically, (# immaterial) / (# immaterial + # material). I create three measures based on the three materiality thresholds described above.
PostSox	An indicator variable equal to one for the post-SOX time period (2002 through 2014) and zero otherwise.

FinCrisis	An indicator variable equal to one for the financial crisis time period (2008 – 2009) and zero otherwise.
LitRisk	A measure of ex-ante litigation risk. I estimate Model 3 in Table 7 of Kim and Skinner (2012) and use the predicted value as the measure of litigation risk.
EQ_PCM	A principal component measure based on four underlying earnings quality measures: absolute discretionary accruals, accruals quality, meet/beat earnings benchmark indicator, and a restatement indicator. See Appendix C for more detail.
AbsDA	The absolute value of discretionary accruals, calculated following the modified Jones model (Dechow, Sloan, and Sweeney 1995).
AQ	The Dechow and Dichev (2002) accruals quality measure, calculated following the methodology in Francis, LaFond, Olsson, and Schipper (2005).
MB1	An indicator variable equal to one if the change in EPS is between 0 and 1 cent, following Lo et al. (2017). Zero otherwise.
Restate	An indicator variable equal to one during the restated period(s) and zero otherwise. Following Lo et al. (2017), I only consider restatements that are the result of an SEC investigation or fraud.

CEOtenure	A count of the number of years the executive has been CEO at the firm, as indicated in Execucomp.
Vega	The sensitivity of the CEO's compensation to stock return volatility. Obtained from Lalitha Naveen's website: https://sites.temple.edu/lnaveen/data/.
Delta	The sensitivity of the CEO's compensation to stock price. Obtained from Lalitha Naveen's website: https://sites.temple.edu/lnaveen/data/.
Size	The natural log of the market value of equity at year *t*, where market value of equity = PRCC_F*CSHO.
BTM	The book-to-market ratio [SEQ / (PRCC_F*CSHO)] at year *t*.
Beta	The coefficient from regressing a firm's daily returns (RET) on daily value-weighted market returns (VWRETD), where daily firm and market returns are from the 240 trading days ending two days prior to the 10-K filing date. When used in the consequences tests (Section 6), beta is estimated over the 240 trading days beginning two days after the 10-K filing date. I require firms to have at least 200 days of returns data available to estimate beta.
Lev	Long-term debt (DLTT) plus long-term debt due in one year (DD1) at year *t* scaled by assets (AT) at year *t*.

ROA	Earnings before extraordinary items (IB) for year *t* scaled by assets (AT) at year *t*.
LnWords	The natural log of the number of words in the annual report. I obtain annual report word counts from Bill McDonald's website: https://www3.nd.edu/~mcdonald/Word_Lists.html#File_Summaries.
StdRet	The annualized standard deviation of a firm's daily stock returns, measured over 240 trading days beginning two days after the 10-K filing date.
Turnover	Daily share turnover is calculated as volume divided by shares outstanding [VOL/(SHROUT*1000)], which is then averaged over the 240 trading days beginning two days after the 10-K filing date.
Spread	Bid-ask spread, calculated following Campbell et al. (2014) and Guay, Samuels, and Taylor (2016). Specifically, I calculate daily spread [(ASK-BID)/PRC]*100, which is then averaged over the 240 trading days beginning two days after the 10-K filing date.
BogIndex	The readability of a firm's annual report, as measured with the Bog Index, where higher scores indicate lower readability. I obtain Bog Index scores for individual

	annual reports from Brian Miller's website: https://kelley.iu.edu/bpm/activities/bogindex.html.
dROA	The change in *ROA* from year *t* to *t+1*.
PctIO	The percentage of a firm's shares outstanding (CSHO) held by institutions as of Q4 in year *t*. *PctIO* is set to zero for firms with no institutional ownership.
BigN	Indicator equal to one for firm-years with a big N auditor (AU = 01, 03, 04, 05, 06, or 07). Zero otherwise.
Loss	Indicator equal to one if a firm's income (IB) was less than zero for year *t*. Zero otherwise.
LnNumEst	The natural log of one plus the number of analysts that make up the last I/B/E/S consensus annual earnings forecast prior to the earnings announcement. Analyst following is set to zero for firms missing from I/B/E/S.

APPENDIX B

EXTRACTING DOLLAR AMOUNTS FROM FIRMS' FORM 10-K FILINGS

Because my research questions examine the quantitative materiality of annual report disclosures, I use Python to extract all dollar amounts disclosed in firms' Form 10-K annual reports. The Python program is comprised of two components, one to extract dollar amounts from the Form 10-K *text* and another to extract dollar amounts from the *tables*.

Extracting Dollar Amounts From the 10-K Text

To extract dollar amounts from the text, I obtain firms' annual reports in text file format from Bill McDonald's Google Drive.[21] These files are stripped of HTML tags and tables, so all that remains is the annual report text. Using Python, I search the text for dollar signs ("$") and extract the amount and the three words immediately following the dollar sign, which I use to determine the dollar amount's denomination (e.g., "thousands"). For most of the observations (i.e., approximately 70%), the word immediately following the dollar amount is "thousand," "million," or "billion," and as a result, the denomination is unambiguous. I delete individual dollar amounts where the word immediately following the amount is "per" or "par" because it is unclear how to convert these amounts in order to assess their materiality.[22]

For the remaining 30% of dollar amounts that are not clearly labeled as "thousand," "million," or "billion" (i.e., the unlabeled amounts), I use Python to count the frequency with which each denomination (i.e., the words "thousands," "millions," or "billions") appears in the

[21] https://drive.google.com/drive/folders/0B4niqV00F3mscFpoRFVzVE9aM0E

[22] For example, "per" could indicate the dollar amount was expressed "per share" or "per employee" or "per month", which are difficult to convert to a basis that is comparable to total assets or net income. "Par" typically refers to the par value of stock. The "per" and "par" amounts I exclude make up approximately 7% of the dollar amounts in the annual reports.

full annual report, and assign the denomination with the highest frequency to the unlabeled amounts.

Because there is inevitably some measurement error in this method, I compare the converted dollar amounts (i.e., the dollar amount multiplied by its assigned denomination; 50 x "thousand" = 50,000) to the firm's total assets. If between 15%-60% of the converted dollar amounts are larger than 50% of total assets, I assume that denomination is incorrect and therefore delete the entire 10-K filing (approximately 700 filings).[23] If this percentage is more reasonable (i.e., less than 15% of the converted dollar amounts within a filing are larger than 50% of total assets), I keep the denomination as that assigned by the highest frequency count. Finally, if 60% or more of the converted dollar amounts are *more* than 50% of total assets, I assume there is *no* denomination to be assigned and thus I do not multiply the original amounts by any factor. That is, I assume that the numbers are stated in the 10-K report in the correctly denominated amounts.

To summarize, the denomination is unambiguous for approximately 70% of the dollar amounts because the amount was immediately followed by the word "thousands," "millions," or "billions. I do not assign a denomination to approximately 12% of the dollar amounts because there is *no* reference of "thousands," "millions," or "billions" in the annual report, which suggests that these amounts are originally stated as the full dollar amount. I assign a denomination to the remaining 18% of dollar amounts based on the frequency count of "thousands," "millions," or "billions." Furthermore, I randomly select ten Form 10-K annual reports and check the accuracy of the dollar amount extraction and assigned denominations, and find an overall error rate of 5.61%.

[23] Because my descriptive statistics in Table 2 Panel A are similar to prior literature, and the sample composition is similar to the Compustat Universe (Table 2 Panel B), it seems unlikely that I systematically exclude a specific type of firm when deleting filings for which it is difficult to determine the denomination.

Extracting Dollar Amounts from the 10-K Tables

Next, I extract all dollar amounts from *tables* in the annual report. I first require each table to contain at least one dollar sign to exclude tables that contain numeric data other than dollar amounts. Because not every dollar amount is identified with a dollar sign in a table, I extract all numeric amounts from the remaining tables. However, I exclude amounts that are likely to be dates (e.g., the amount is preceded by a month or it is a four-digit number beginning in 19XX or 20XX), percentages (i.e., "%"), and ranges (i.e., two numbers with a dash in between). I also exclude amounts that are in rows where the label contains any of the words "per," "share," "outstanding," "basic," or "diluted." I do this to exclude "per share" amounts, as well as amounts that represent the number of stock shares (i.e., these are not *dollar* amounts), both of which are common in tables related to stock-based compensation. I assign a denomination to the remaining amounts based on the highest frequency count of "thousands," "millions," or "billions." Again, I expect some measurement error in assigning the denomination because some firms use different denominations for different tables in their annual reports (i.e., some tables may be "in thousands" while others may be "in millions"). To address this concern, I require the majority of the tables within a 10-K filing to have the same denomination (i.e., at least 80% of the total frequency counts are in one denomination). If a filing does not meet this requirement, I exclude it from my sample (approximately 8% of filings).

There are two primary concerns when extracting dollar amounts from 10-K tables: (1) capturing numbers that are not dollar amounts, and (2) determining the correct denomination. In regards to the first concern, as described above, I exclude dates and amounts that likely represent the number of stock shares, both of which are frequent numeric amounts in tables that are not dollar amounts. I examine a random sample of three 10-Ks and find that the steps I take to

capture only dollar amounts correctly capture approximately 87% of the dollar amounts across all three annual reports.

I address the second concern by excluding filings where it is most difficult to determine the denomination. That is, I delete filings where the firm appears to use one denomination for part of the tables, and another denomination for other tables (e.g., high frequency counts of both "thousands" and "millions"). Because my descriptive statistics in Table 2 Panel A are similar to prior literature, and the sample composition is similar to the Compustat Universe (Table 2 Panel B), it seems unlikely that I systematically exclude a specific type of firm when deleting filings for which it is difficult to determine the denomination. Out of the filings used in the final sample, approximately 14% have no counts of "thousands," "millions," or "billions," suggesting they do not have a denomination and the dollar amounts are stated in the full dollar amount. Of the remaining 86% of the filings, on average, 98% of the frequency counts are concentrated in only one denomination. This suggests that relatively few tables will be assigned the incorrect denomination within a 10-K filing. Overall, these statistics provide some assurance that the potential error exposure is relatively low.

APPENDIX C

EARNINGS QUALITY PRINCIPAL COMPONENT ANALYSIS

I use principal component analysis to create a composite earnings quality measure, which I use to test the association between earnings quality and the level of immaterial disclosure (H2B). The principal component analysis uses four earnings quality measures: a restatement indicator (*Restate*), accruals quality (*AQ*), absolute discretionary accruals (*AbsDA*), and a meet/or beat indicator (*MB1*). The table below indicates two factors with eigenvalues greater than one:

	Eigenvalue	Difference	Proportion	Cumulative
1	1.383		0.346	0.346
2	1.001	0.382	0.250	0.596
3	0.999	0.003	0.250	0.846
4	0.617	0.382	0.154	1.000

The eigenvectors for these two factors are presented below:

EQ Measure	Factor 1	Factor 2
Restate	0.020	-0.680
AQ	0.707	0.012
AbsDA	0.706	-0.027
MB1	0.032	0.733

The earnings quality composite measure I use (*EQ_PCM*) is based on Factor 1 above, as this factor explains the highest proportion of common variances among the earnings quality measures (0.346). While all earnings quality measures are positively associated with Factor 1, accruals quality and discretionary accruals have the largest associations.