

BLOCKHOLDER HETEROGENEITY AND CORPORATE TEXTUAL DISCLOSURE  
QUALITY

by

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ABSTRACT

BLOCKHOLDER HETEROGENEITY AND CORPORATE TEXTUAL DISCLOSURE  
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The University of Texas at Arlington, 2019

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This study investigates whether and how different types of blockholders affect a firm's textual disclosure quality. Using a hand-collected blockholder-firm panel sample from 2011 to 2016, I find that, on average, both the aggregate blockholder ownership and the total number of blockholders are negatively associated with the readability of firms' 10-K reports, after controlling for the numerical quality of earnings. When blockholders are categorized into different groups based on their filing choices and their affiliations with management, I find that firms with greater number of unaffiliated 13D filers write more readable 10-K reports while firms with both greater number and greater ownership of affiliated 13D filers write less readable 10-K reports than firms with only passive blockholders (13G filers). I further categorize unaffiliated 13D filers into three groups with different levels of activism: management-focused blockholders, policy-focused blockholders, and information-focused blockholders. Unaffiliated 13D filers, who are perceived to be hostile to management (management-focused blockholders), elicit less readable 10-K reports. In contrast, unaffiliated 13D filers who are not perceived as threatening the incumbent management (information-focused blockholders) elicit more readable

10-K reports. These findings are consistent with managers responding in a strategic manner to perceived blockholder intentions.

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## DEDICATION

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## TABLE OF CONTENTS

Chapter 1 Introduction .....	1
Chapter 2 Institutional Background and Literature Review .....	12
2.1 Different Ownership Filings—13D, 13G, and 13F .....	12
2.2 Blockholders .....	14
2.3 Textual Disclosure Quality .....	16
Chapter 3 Hypothesis Development .....	20
3.1 Homogeneous Blockholders .....	20
3.2 The Categorization Based on Blockholders' Filing Choices .....	22
3.3 The Categorization Based on Blockholders' Different Intentions.....	24
3.4 Other Factors.....	27
3.5 The Effects of Blockholders' "Exit Threat" on Readability of 10-K Reports.....	28
Chapter 4 Research Design.....	30
4.1 Readability .....	30
4.2 Complexity-adjusted Readability.....	32
4.3 Numerical Earnings Quality and Control Variables .....	33
4.4 Endogeneity Problems .....	33
4.5 Empirical Model to Test H1 .....	34
4.6 Empirical Model to Test H2 and H3.....	35
4.7 Empirical Model to Test H4 .....	35
4.8 Empirical Model to Test H5 .....	37
4.9 Additional Tests .....	37
4.9.1 Numerical Earnings Quality and Textual Disclosure Quality .....	37



4.9.2 Levels versus Changes .....	38
Chapter 5 Data and Sample .....	40
Chapter 6 Empirical Results .....	43
6.1 Descriptive Statistics.....	43
6.2 Multivariate Tests .....	44
Chapter 7 Conclusions .....	52
References.....	55
Appendix A Variable Definitions .....	60
Appendix B Textual Processing Procedures of 10-K reports .....	63
Appendix C Textual Processing Procedures of Schedule 13D filings.....	64
Appendix D Excerpts from Item 4 in Schedule 13D filings.....	65
Appendix E Calculation of Discretionary Accruals ( <i>DA</i> ) .....	67
List of Figures .....	68
Figure 1 Blockholder Categorization.....	68
Figure 2 Scree Plot of Eigenvalues for Three Factors .....	69
List of Tables .....	70
Table 1 Sample Selection Process .....	70
Table 2 Descriptive Statistics.....	71
Table 3 Correlations.....	73
Table 4 The association between aggregate blockholders the readability of 10-K reports .....	74

Table 5 Full Sample to test the relationship between the presence of different types of blockholders and the readability of 10-K reports .....	76
Table 6 The relationship between the presence of different types of blockholders (lagged) and the readability of 10-K reports.....	80
Table 7 Propensity-score-matched sample to test whether different types of 13D filers affect the readability of 10-K reports.....	84
Table 8 The effect of different types of blockholders by using textual analysis on readability ...	87
Table 9 Different types of unaffiliated 13D filers and the readability of 10-K reports—Additional Tests .....	89
Table 10 The linkage between manipulating numerical earnings and obfuscating textual disclosure .....	92
Table 11 The effects of the non-blockholder intuitional ownership on the relationship between the presence of different types of blockholders and readability of 10-K reports.....	94
Table 12 The effects of governance on the relationship between the presence of different types of blockholders and readability of 10-K reports .....	98
Table 13 The effect of exit threat on the readability of 10-K reports .....	102
Table 14 Different types of unaffiliated 13D filers and the readability of 10-K reports: Change model.....	103

# Chapter 1

## Introduction

A blockholder is the owner of a large block of a company's shares. The managers of such firms are likely influenced by these "anchor" owners because of the extent of voting rights associated with their holdings. More specifically, I define a blockholder, following the literature, as a shareholder whose voting rights<sup>1</sup> are large in magnitude and value (voting rights of at least 5%). Blockholders are pervasive in U.S. corporations, with over 70% of U.S. listed firms having multiple blockholders (Dlugosz et al. 2006). These include institutions (e.g., hedge funds, mutual funds, and pension funds), individuals, and other corporations. Holderness (2009) shows that 96% of U.S. firms contain at least one blockholder, with 74% of his sample firms having multiple blockholders, and 26% having at least four blockholders.

A substantial body of work (Shleifer and Vishny 1997; Bethel et al. 1998; Kahn and Winton 1998; Edmans 2009) has shown that large shareholders play an important role in firms' investment and financial decisions and corporate governance. Much of the prior research (Chung et al. 2003; Klein 2002) treats blockholders as a homogenous group and examines the influence of their existence alone. Cronqvist and Fahlenbrach (2008), however, find that the heterogeneity in blockholder behavior has a significant effect on corporate policies and firm valuation. These results are consistent with a recent survey paper (Edmans and Holderness 2017) on the heterogeneity of blockholders, which shows that blockholders vary in their beliefs, skills, and preferences and, therefore, influence companies in different ways.

Different types of blockholders acquire and hold the stock for different reasons. Activist blockholders could acquire stock to demand board seats, replace the CEO or a director, change

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<sup>1</sup> When companies report both beneficial ownership and investment power in their proxy statements, following Dlugosz et al. (2006), I use the voting power to identify the holdings.

corporate bylaws, or change the compensation structure— actions that are likely to jeopardize managers' corporate control (Kahan and Rock 2007; Brav et al. 2008). Other blockholders might acquire and hold the stock because they believe the stock to be undervalued and by influencing management to improve information disclosure after they buy the stock the blockholders could earn better returns. These different blockholder intentions are likely to elicit different responses from managers. That is, managers of the target firms could anticipate the intentions of the blockholders through their filing choices and respond differently to different intentions.

Blockholders who are solely interested in getting better returns demand more value-relevant public information to exploit the resulting increase in market value. Managers could cooperate with such blockholders and cater to their information needs by improving the quality and readability of public disclosures. However, if managers perceive the blockholder's intention as hostile and damaging to the managers' reputation and career prospects, they might respond defensively by withholding information. In effect, the target firm management's desire to preserve corporate control and job security creates an incentive to use disclosure strategy in response to different types of blockholders' intentions.

Although financial reporting serves as an essential communication device between managers and the capital market, only a few studies examine the influence of blockholders' heterogeneity on firms' reporting quality and disclosure decisions. In this paper, I try to fill this gap in the literature by investigating whether and how target firm managers respond to different types of blockholders' intentions.

Two critical components in disclosure quality—the numerical earnings quality and textual disclosure quality—play significant roles in firms communicating useful information to investors. Since the formatting and structure of textual representation in firms' financial

documents are not as well specified as the numerical representation, managers have more discretion in manipulating the textual narrative. Managers could write a simpler but more understandable and revealing report about matters that they are willing to communicate but make it confusing and difficult for investors about matters that they prefer to obfuscate. As SEC commissioner Cynthia Glassman points out in her speech at Northwestern University School of Law on April 10, 2003: “When the financial statement is so complicated and long-winded—MD&A is topping out over 100 pages, for example—the information disclosed becomes essentially useless.”<sup>2</sup> Dou et al. (2016) present evidence that managers respond to blockholders by altering the numerical earnings quality through earnings management. I expand on this concept and examine whether, after controlling for numerical earnings quality, managers also alter the readability of financial documents, based on their perception of blockholder intentions. Specifically, I use readability as the measure of firms’ disclosure quality in addition to numerical earnings quality.

Although blockholder data is crucial for examining the critical roles that large shareholders play in financial reporting decisions, Dlugosz et al. (2006) point out that “there is no clean off-the-shelf database to facilitate research.”<sup>3</sup> SEC requires public companies to disclose all beneficial owners of at least 5% of shares outstanding in the proxy statements (Securities and Exchange Commission 1978). I use a manually collected blockholder-firm panel sample of S&P 1500 firms from companies’ annual proxy statements from 2011 to 2016 for my study after eliminating all the multiple-class firms<sup>4</sup> and family firms<sup>5</sup>. When the company reports

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<sup>2</sup> Speech by SEC Commissioner: Improving Corporate Disclosure-Improving Shareholder Value by Cynthia Glassman. See the link at: <https://www.sec.gov/news/speech/spch041003cag.htm>.

<sup>3</sup> P.595, Dlugosz et al. "Large blocks of stock: Prevalence, size, and measurement." *Journal of Corporate Finance* 12.3 (2006): 594-618.

<sup>4</sup> Anderson and Lee (1997b) show there are many problems with this special subset of the data, and these problems are challenging to correct. Following Dlugosz et al. (2006), Cronqvist and Fahlenbrach (2008), and Dou et al. (2016), I eliminate all the multiple-class firms from the sample.

the ownership of both common stock and preferred stock side by side, I include only the common-stock component of voting. I use voting power when companies report both beneficial ownership and investment power in their proxy statements.

Using principal component analysis, I aggregate nine commonly used readability measures in the finance and accounting literature to measure readability: the Gunning Fog Index, Length, file size, Bog Index, Flesch-Kincaid Index, RIX Index, LIX Index, ARI Index, and SMOG Index<sup>6</sup>. Consistent with the current literature, I exclude the words and phrases that are commonly used in accounting and finance documents but which would otherwise be considered complex, in my computation of the readability measures. I use the absolute value of performance-adjusted discretionary accruals (Kothari et al. 2005) as a measure of numerical earnings quality.

First, I find that both the aggregate blockholder ownership and the total number of blockholders are negatively associated with the readability of firms' 10-K reports. It is entirely possible that specific blockholders have a positive influence while others have a negative influence. Second, I address the heterogeneity of intentions across blockholders. I identify their intentions by the blockholders' choices of their Schedule 13 SEC filings. There are two major types of filings: 13D<sup>7</sup> filings and 13G filings. According to SEC section 13(d) and 13(g)<sup>8</sup>, all shareholders must file 13D or 13G filings when their holdings cross the 5% threshold<sup>9</sup>. Blockholders who intend to engage in the intervention must file Schedule 13D, as it legally

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<sup>5</sup> Isakov and Weisskopf (2014) find that family and non-family ownership affects the performance of listed firms differently due to their different objectives.

<sup>6</sup> RIX is RIX Readability Index; LIX is LIX Readability Index; ARI is Automated Readability Index; and SMOG is SMOG Readability Index.

<sup>7</sup> SEC use Schedule 13D, 13G, or 13F to identify different Schedule 13 filings.

<sup>8</sup> 13(d), 13(g), and 13(f) are sections in Security Exchange Act of 1934.

<sup>9</sup> More precisely, all shareholders should file Schedule 13D when their holdings exceed or equal 5% of the voting common stock. However, passive investors can get an exemption from filing 13D and instead, can file Schedule 13G.

entitles them to engage in the form of activism. They specify in Item 4, labeled “Purpose of Transaction,” the reason for acquiring the shares. In contrast, a Schedule 13G filing can be filed only if the blockholder “did not purchase or do (does) not hold the securities to change or influence control over the issuer.”<sup>10</sup> While an activist is not allowed to file a Schedule 13G and engage in activism, blockholders who intend to remain passive could file Schedule 13D but are unlikely to do so because they would lose the benefits of filing a Schedule 13G as described in Edmans et al. (2013)<sup>11</sup>.

I further categorize 13D filers as unaffiliated or affiliated based on their connections with the management of target firms<sup>12</sup>. Affiliated 13D filers are those who are the directors/executives in the target firms or related to directors/executives. My results indicate that affiliated 13D filers elicit less readable 10-K reports. Unaffiliated 13D blockholders are the 13D filers who are neither directors/executives in the target firms nor related to the directors/executives. Unaffiliated 13D filers have both the ability and incentives to influence management’s activities by their substantial shareholdings, which grant them voting rights (Klein 2002) and also by trading their shares (Gillan and Starks 2003). Consistent with this argument, by using a propensity-score-matched subsample, I find that, compared to firms with only 13G filers, firms with greater number of unaffiliated 13D filers produce more readable 10-K reports.

To further examine the effect of the intentions of different types of blockholders on target firms, I categorize unaffiliated 13D filers into three different groups based on the frequency of

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<sup>10</sup> See Edman et al (2013), P.1449.

<sup>11</sup> A 13D filing hurts the filer’s ability to trade subsequently, e.g., makes it difficult to sell at a good price. In addition, a 13D filing may cause the target firm to become hostile to the blockholder and restrict access to management and thereby a source of information. Thirdly, a 13D is typically accompanied by shorter bank loan maturities, higher bank loan spreads, and credit downgrades, which may harm the firm’s performance and the value of the blockholder's stake. Fourth, a 13D filing signals that the blockholder believes the target is underperforming and intervention is warranted. Therefore, failures of intervention or improvements in firm performance make the filer lose her reputation among her investors. See discussions in details in Chapter 2.1.

<sup>12</sup> Firms and target firms are used interchangeably in the paper.

the keywords used in Item 4 (“Purpose of Transaction”) in the Schedule 13D filings. Brav et al. (2008) summarize five motives behind activism. First, the activist thinks that the company is undervalued and that the fund can help the manager maximize shareholder value. Second, the activist targets the firms’ payout policy and capital structure. Third, the acquisition of stocks in the target firm is part of the acquiring entity’s business strategy. Fourth, the activist intends to push for the sale of the target. The last set includes activism targeting firm governance. Also, Brown et al. (2018) use a web-crawling program to classify the six main purposes expressed by 13D filers: (1) Merger & Acquisition; (2) Governance; (3) business strategy; (4) threat<sup>13</sup>; (5) investment; and (6) heritage purpose<sup>14</sup>.

Based on the above motives and purposes, 17 relevant candidate keywords<sup>15</sup> have been chosen to perform factor analysis. Given the primary objective is to investigate a set of candidate factors that maximally differentiate intentions that different types of blockholders have, I use a stepwise approach. After an examination of factor solutions with eigenvalues $>1$ , three factors are retained which account for 66.07% of the variance<sup>16</sup>. Factor 1<sup>17</sup> is related to active monitoring and discipline (See examples in Appendix D). This type of 13D filing may be perceived as hostile by the target firm. Consequently, its managers are likely to respond by restricting blockholder access to management and sources of firm-specific information. I define this type of

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<sup>13</sup> Threat purpose is grouped for blockholders who explicitly inform managers that they will sell the stocks upon unsatisfactory managerial performance.

<sup>14</sup> The Heritage purpose reveals that blockholders acquire the block as a heritage or gift to their children.

<sup>15</sup> The 17 keywords include: shareholder value/shareholder/interest of shareholder; dividend; structure; strategy/strategic/operation/business plan; sale/sale of the issuer/business/sale of the company/sale division/sale segment; governance/deficiency/affiliated control; executive compensation/say on pay; board; request/demand action; nominee/replace/elect/nominate; merger/acquisition; undervalue; profit/performance/long-term; no plan/no specific plan/no any plan; change; invest/investment opportunity/investment purpose; and resign, see details in Appendix C.

<sup>16</sup> To improve interpretability, the factor solution is rotated using the promax oblique method; the resulting factor loadings and the variance explained by each of the factors are shown in Table 8 Panel A, and the Scree Plot in Figure 2.

<sup>17</sup> The keywords related to factor 1 include *SHAREHOLDER VALUE*, *DEMAND/REQUEST ACTION*, *PROFIT*, *RESIGN*, and *REPLACE/ELECT/NOMINATE*.



blockholder as management-focused blockholders and expect their presence to elicit less readable 10-K reports. The keywords related to factor 2 include *DIVIDEND*, *STRUCTURE*, and *CHANGE*. I define this type of blockholder as policy-focused blockholders, who seem dissatisfied with the payment of dividends and require a change in the structure (See examples in Appendix D). The keywords related to factor 3 include *UNDERVALUE* and *INVESTMENT*. These blockholders' acquisitions of blocks of shares are mainly intended to exploit possible undervaluation of the equity without any particular intention to monitor or change the management of the target firms (See examples in Appendix D). I define this type of blockholder as information-focused blockholders. Managers in the target firms are less likely to fear the possibility of being replaced and therefore are willing to cooperate with this type of blockholder by providing more transparent information. Consistent with these expectations, I find that compared to firms held only by 13G filers, those with unaffiliated management-focused blockholders write less readable 10-K reports and those with unaffiliated information-focused blockholders write more readable 10-K reports.

Lower readability in financial statements could result not only from deliberate managerial actions but also from the underlying complexity of the firm's operations and the reporting complexity that may be forced on the firm by accounting standards (Guay et al. 2016; Bushee et al. 2018)<sup>18</sup>. Therefore, I build an expectations model for the readability of the 10-K to control for complexity, based on Li (2008) and use the residuals from these regressions as complexity-adjusted measures that are better suited to capture managerial obfuscation. My results with complexity-adjusted readability are similar to those with the raw readability measure.

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<sup>18</sup>Guay et al. (2016) provide evidence that managers compensate for any complexity-related lower readability of 10-K reports forced on them through additional voluntary disclosures. Bushee et al. (2018) separate the effect of complexity (decreases information asymmetry) and obfuscation (increases information asymmetry) on the readability of conference call transcripts.

To further explore the linkage between firms' textual disclosure quality and numerical earnings quality in response to different types of blockholders' intentions, I investigate how managers in the target firms who manipulate earnings write 10-K reports. It is not clear whether managers in the target firms employ the two manipulation strategies in resisting aggressive activists. I find that firms with a higher level of discretionary accruals write even less readable 10-K reports in response to management-focused blockholders. This finding suggests that managers complement numerical earnings manipulation with textual disclosure obfuscation strategies in response to perceived blockholder intentions.

If lower readability is a strategic disclosure choice by managers, it is natural to ask whether readability will be improved in response to the certain types of blockholders when there are factors present that could rein in the managerial propensity to write less readable reports. Ajinkya et al. (2005) find that firms with greater institutional ownership provide more accurate information. If the managers in the target firms with management-focused blockholders do not choose to write less readable 10-K reports, the increased presence of non-blockholder institutional owners<sup>19</sup> should have no impact on the readability. I find that the non-blockholder institutional ownership in the top quartile significantly moderates the negative relationship between the presence of management-focused blockholders and the readability of 10-K reports. I also use the Entrenchment Index (E-Index) proposed by Bebchuk et al. (2008) to measure the level of governance and find that governance (the inverse measure of E-Index) in the bottom quartile exacerbates the negative relationship between the presence of management-focused blockholders and the readability of 10-K reports.

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<sup>19</sup> Non-blockholder institutional ownership is defined as the institutional ownership after subtracting the ownership which is higher than 5 percent.

Bharath et al. (2013) find that blockholders' exit threat significantly enhances firm value by better aligning managers' and shareholders' interests. Blockholders have strong incentives to gather private information and trade their shares. To prevent blockholders from selling their shares and the firm from suffering a stock price decline, managers align their actions with the interests of shareholders. As a result of greater manager-shareholder alignment, managers' actions are more likely to be in the shareholders' best interest, and consequently, there is less need for managers to hide information. Dou et al. (2018) show evidence that, as exit threat increases, firms have higher earnings reporting quality. The above theoretical and empirical studies provide evidence consistent with blockholders' threat of exit positively affecting managerial behavior. Following Dou et al. (2018), I use the interaction between blockholder competition and liquidity to measure exit threat. My results indicate that exit threat will improve the readability of the firm's 10-K reports. I also find that, when the entrenchment index is in the third and fourth quartiles, exit threat fails to improve the readability of the firm's 10-K reports.

Edmans et al. (2017) point out in their paper that endogeneity is an important issue while examining the effect of heterogeneous blockholders. The authors suggest that researchers need to “infer the logical explanations rather than econometric instruments” to relieve the endogeneity problems. Blockholders may intentionally invest in firms that are expected to have improved future performance irrespective of blockholders' intervention, and these firms will naturally have more transparent reports. Both Cronqvist and Fahlenbrach (2009) and Dou et al. (2016) find that blockholders are more likely to “influence” rather than “select” the target firms. I perform an analysis in which each 13D target firm is matched with the nontarget firm (firms held by only 13G filers) based on the propensity-score-matching method and still find significant results. To

control for the time-invariant effects, I estimate the main model with the interaction between industry and year fixed effects and the main results still hold.

This study makes several contributions to the literature. The current body of literature examines the effects of large shareholders on firm value and corporate policies. Dou et al. (2016) is one of the few studies focusing on the impact of blockholders on numerical measures of earnings quality, but I complement their results by examining the impact of blockholders on textual reporting quality. By showing that the presence of blockholders has a significant effect on the readability of the firms' 10-K reports even after controlling for its numerical earnings quality, this study strengthens the link between the presence of blockholders and firms textual disclosure quality.

Second, most prior studies treat blockholders as a homogenous group of investors. This study provides evidence that the blockholders' impact on the readability of 10-K reports differs across blockholders with different intentions. More specifically, I find that Firms with a greater number of unaffiliated 13D filers write more readable 10-K reports. Furthermore, I find that the presence of unaffiliated management-focused blockholders may elicit a response from the firm's managers to write less readable 10-K reports, but the presence of unaffiliated information-focused blockholders results in the firms writing more readable 10-K reports. The overall negative relationship between blockholdings and the readability of 10-K reports masks the differences across blockholders with different intentions, and the managers' strategic responses to those intentions. This study improves the understanding of the effect of blockholders by providing results on the nuanced cross-sectional variation across the blockholders' effect on disclosure quality.

Third, this study brings a fresh perspective to the readability literature that the presence of different types of blockholders serves as an additional factor in shaping firms' textual disclosure quality. As informed and resourceful investors with sizable stakes on hand, different types of blockholders have different abilities and incentives to influence textual disclosure quality through their influence on managerial behavior.

The rest of the paper is organized as follows. Chapter 2 provides the institutional background and literature review. Chapter 3 presents the hypotheses development. Chapter 4 explains the research design. Chapter 5 describes the data and sample. Chapter 6 shows empirical results, and the final chapter (Chapter 7) provides a conclusion.

## Chapter 2

### Institutional Background and Literature Review

#### 2.1 Different Ownership Filings—13D, 13G, and 13F

The Securities and Exchange Commission (SEC) requires investors, e.g., individuals, corporations, funds, and institutions, to disclose their positions under certain circumstances. The 13D and 13G forms are “beneficial ownership” forms. When investors acquire beneficial ownership of more than 5% of a class of equity securities registered under the Security Exchange Act of 1934, they must file a report on Schedule 13 with the issuer, the SEC, and the exchanges where the securities trade. The investors may be considered beneficial owners if they have (or shares) either of the following: 1) the power to vote or direct the voting of the shares, and 2) the power to dispose or direct the disposition of the security.

If it is determined that the investors meet the reporting requirements of Section 13(d), they must file Schedule 13D within ten days of becoming a 5% beneficial owner. Schedule 13D has a section (Section 4) labeled “Purpose of Transaction,” which requires the investor to clarify if they have a clear plan to seek control and in some way look to force change. Such change could include a potential sale of a company, a change in senior management and a change in corporate governance practices, and several other outcomes.

Although similar to Section 13(d), Section 13(g) is designed to require reporting by qualified passive investors that do not raise the types of concerns underlying Section 13(d). Schedule 13G is allowed when an investor exceeds 5% of a class of outstanding registered equity securities and has no plan to change or influence control of the issuer. Schedule 13G must be filed within 45 days of the end of the calendar year in which the qualified investor exceeds the 5% threshold. Amendments are required on an annual basis. Alternatively, any person or entity

that would be otherwise obligated to file a Schedule 13D may file a Schedule 13G if they do not intend to attempt to change control of the issuer and do not hold more than 20% of the issuer's stock. If they elect this option, they must file within ten days of crossing the 5% threshold. This indicates that an activist is precluded from filing Schedule 13G and then engaging in activism and, more importantly, it is unlikely that a blockholder who intends to remain passive will file a 13D.

First, a 13D filing influences the filer's ability to trade subsequently. Schedule 13D must be updated promptly whenever over 1% of changes occur within ten days, which causes the market alert to changes in the filer's position. On the other hand, 13G amendments are only required within 10 days after the end of any month in which beneficial ownership exceeds 10% or more and within 10 days after the end of any month when ownership increases or decreases by at least 5% (for "qualified institutional investors" listed under Rule 13d-1(b)(1)). Secondly, a 13D filing may cause the target firm to become hostile to the blockholder and restrict access to management and thereby a source of information. Thirdly, a 13D is typically accompanied by shorter bank loan maturities (Li and Xu 2011), higher bank loan spreads, and credit downgrades (Klein and Zur 2011). These impacts may harm the firm's performance and the value of the blockholder's stake. Fourth, filing a 13D signals that the blockholder believes the target is underperforming and intervention is warranted. Therefore, if the filers keep failing to intervene, and firm performance does not improve, they lose reputation among her investors (Edmans et al. 2013).

Institutional investment managers with investment discretion of \$100 million or more of certain equity securities are required to file quarterly reports within 45 days of the end of the calendar quarter disclosing their holdings under Section 13(f) of the Security Exchange Act of

1934. An institutional investment manager is an entity that either invests in or buys and sells, securities for its account. A person who exercises investment discretion over her account cannot be regarded as an institutional investment manager. Therefore 13F filings are more concerned with identifying the holding of a fund other than disclosing the control of a company. One of the critical differences between the 13D/G filings and the 13F filings is that whereas the 13D/G filings can be made as groups (with related parties) the 13F filings cannot. This means that frequently an institution might file a 13G and a 13F disclosing different shares for the same security.

## **2.2 Blockholders**

Blockholders are defined as large shareholders that typically own at least 5 percent of a firm's outstanding shares. Blockholders are pervasive in U.S. corporations, and over 70% of firms have multiple blockholders (Dlugosz et al. 2006). Blockholders may include institutions (e.g., hedge funds, mutual funds, and pension funds), individuals, and other corporations. Holderness (2009) shows that 74% of his sample firms have multiple blockholders and 26% have at least four blockholders. Different types of blockholders likely face different monitoring incentives and potentially, influence firms through different channels and in different ways. For example, they can have different beliefs about how to monitor firms in which they own stock most effectively or what set of corporate policies may maximize firm value. Cronqvist and Fahlenbrach (2008) show significant blockholder fixed effects in operational, financing, and compensation policies of a firm. These findings suggest that managers' financial reporting incentives could be shaped differently by heterogeneous blockholders. Despite the potentially large differences between blockholder categories, most prior studies assume that blockholders are a homogenous group in investigating their impact (Chung et al. 2003; Klein 2002). While



some blockholders have access to private channels of communication, others might rely on public information. By assuming homogeneity among blockholders, researchers lose insights on the nuanced workings of an interacting set of blockholders (Dou et al. 2016).

Prior literature provides mixed findings on the relationship between large shareholders and corporate governance. One stream of the literature suggests that there exists a positive relationship between large shareholders and corporate governance because of the monitoring role of large shareholders in influencing managers' real actions to better align with those of shareholders. This alignment allows managers to focus more on activities that create long-term value and worry less about managing current earnings to achieve short-term performance benchmarks (Dou et al. 2016). Chhaochharia et al. (2012) find that firms with local institutional investors are less likely to manage their earnings aggressively. Farber (2005) finds that fraudulent firms have lower blockholder ownership. These results indicate that more closely monitored managers are less likely to engage in the extraction of private benefits, and therefore they have less to conceal from shareholders by decreasing the disclosure quality.

On the other hand, blockholders could negatively affect firms' governance and disclosure quality. Shleifer and Vishny (1997) suggest that large shareholders have incentives to extract gains from creditors and other shareholders. For example, large shareholders may benefit from earnings management if it prevents debt covenant violations (Jiang 2008). Large blockholders might also benefit from extracting private benefits from smaller shareholders (Shleifer and Vishny 1997) and selling higher-priced stocks to second generation shareholders (Lopez and Rees 2002). Furthermore, specific categories of blockholders care about things other than increasing shareholder wealth, such as, better supply contracts or influencing the operating and investing management decisions in their favor. Those blockholders could sacrifice shareholder

wealth to satisfy their objectives (Camara 2004). In both cases, certain blockholders could exacerbate managerial opportunism in financial reporting, resulting in lower disclosure quality.

Prior studies on blockholder monitoring focus primarily on how they influence firm behavior through direct intervention, known as “voice” (Shleifer and Vishny 1986; Admati et al. 1994). Intervention activities to improve firm value could include a variety of costly actions such as obtaining board positions through proxy solicitations, advising management of strategic opportunities, preventing value-destroying actions (e.g., blocking wasteful mergers) or removing underperforming managers. There is empirical evidence that “voice” positively impacts firm value (Edmans 2009). By intervening, blockholders limit managers' opportunistic activities, align the interest of shareholders and managers and consequently mitigate managers' incentives to manipulate earnings as they have little to conceal from shareholders (Dechow et al. 1996; Farber 2005). More recent theoretical and empirical studies, however, find that the threat of blockholder “exit” exerts a positive influence on governance (Admati and Pfleiderer 2009; Edmans 2009; Edmans and Manso 2010). In an influential study, Edmans (2009) analyzes how blockholders can induce managers to undertake efficient real investments through their informed trading of the firm's shares. The threat of exit disciplines managers' actions and creates greater manager-shareholder alignment (i.e., improved governance).

### **2.3 Textual Disclosure Quality**

The prior accounting literature has typically examined the effect of blockholders on accruals quality. For example, using a large sample of all blockholders of S&P 1500 firms for the years 2002–2009, Dou et al. (2016) document significant individual blockholder effects on earnings management (accrual-based earnings management, real earnings management, and restatements). Kokmaz et al. (2017) find that the existence of blockholders can increase earnings

quality by decreasing the likelihood of earnings management. In contrast, few accounting studies have focused on the effect of blockholders on the readability of firms' financial documents, although this is a crucial dimension of financial disclosure quality.

The readability of a document is the ease with which a reader can understand the document. It depends on the document's length, clarity of exposition, syntax and the complexity of its vocabulary. Since the formatting and structure of quantitative information in firms' financial documents are better specified than the formatting and structure of the text, managers have more discretion in manipulating the textual narrative than in manipulating the numerical values. Managers could make the text simple, clear and understandable when conveying the news that they want to communicate but make it confusing, complicated and less understandable when reporting news that they prefer not to communicate. Following these arguments, the readability of financial documents reflects, at least partially, the extent to which managers have tried to manipulate the narrative. Therefore, the readability of financial documents can be regarded as strategic disclosure choices by the managers.

SEC requires publicly traded firms in the United States to communicate the economic activities and financial condition of the firm by filing an annual report on Form 10-K. Technological advancement and new developments in financial engineering have made the business environment more complex, thereby also making it more challenging for firms to communicate all the pertinent information about their operations. As such, increasingly complex business transactions have fueled concerns about the effectiveness of communication and the ability of interested users to make informed decisions based on this information. Not surprisingly, both the SEC and the popular press have expressed concerns about the ability of financial statement users, especially small investors, to understand the complicated text in firms'

financial documents (Schroeder 2002; SEC 1998)<sup>20</sup>. In 1998, the SEC advocated “plain English” disclosure rules (SEC 1998) based on the argument that if financial reports are too complex to be understood by average investors, it will result in capital market inefficiencies. SEC is committed to making financial disclosure documents more readable (SEC, 2016). 10-K reports, however, become longer, more complicated, and more difficult to comprehend (Bloomfield 2012). For example, for the fiscal year ending on December 31, 2014, there were total pages of 274 in the 10-K report of Bank of America Corporation. Mary Jo White, former SEC Chair, noted in a Wall Street Journal article<sup>21</sup> that such long 10-Ks create “information overload” for the market investors.

The readabilities of the 10-K reports are affected by two factors. The first factor is the business and reporting complexity of the firm. Complexity makes it more difficult to communicate all the required details to investors clearly and concisely (Guay et al. 2016). In this context, Guay et al. (2016) examine whether managers use voluntary disclosures to mitigate the adverse effects of financial statement complexity and find a robust positive relationship between financial statement complexity and voluntary disclosure. Their results suggest that managers use different disclosure vehicles to manage the information environment. The second factor that could affect readability is intentional obfuscation by managers. Bloomfield (2002) argues that investors under-react to information that cannot be extracted easily. Building on that argument, Li (2008), borrowing the Gunning Fog Index from computational linguistics, first introduces natural language processing approaches to the accounting literature and hypothesizes that managers could obfuscate the text selectively to make the bad news less readable, in the

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<sup>20</sup> This argument goes as far back as the Securities Act of 1933. For example, Section 5(c) of the 1933 Securities Act prohibits any offer to sell a new security prior to filing a registration statement with the SEC. Violations of Section 5 (c) are termed ‘gun jumping’.

<sup>21</sup> Full text available at: [http://www.sec.gov/News/Speech/Detail/Speech/1370539878806#.Ux4OQ\\_SwI0l](http://www.sec.gov/News/Speech/Detail/Speech/1370539878806#.Ux4OQ_SwI0l).

anticipation that investors would under-react to it. Consistent with this hypothesis, Li (2008) provides evidence that firms with lower earnings make their 10-Ks less readable and that otherwise-comparable firms with more readable 10-Ks have more positive persistent earnings.

After Li (2008), several studies have examined the determinants associated with the level of readability of firms' financial documents. For example, Li and Zhang (2015) find that firms that face greater short selling pressure write less readable 10-K reports when earnings news is bad (i.e., ROA lower than the industry median). Lo et al. (2017) find firms that are more likely to have managed earnings write less readable MD&A. Nelson and Prichard (2016) find that firms that face greater litigation risk have more readable risk factor disclosures in 10-Ks. Chakrabarty et al. (2018) find that firms with greater CEO risk-taking incentives (options vega) write less readable and larger-size 10-K reports. Mounting evidence suggests that managers obfuscate the 10-K reports when they are facing higher pressures and greater risks. To the best of my knowledge, no prior study has addressed the effect of blockholder heterogeneity on 10-K readability.

## Chapter 3

### Hypothesis Development

#### 3.1 Homogeneous Blockholders

Cronqvist and Fahlenbrach (2008) show that blockholders affect the operational, financing, and compensation policies of a firm. Blockholders, who typically are sophisticated and resourceful investors with sizable stakes on hand, have significant influence over management and they often hold insider positions. Disclosure quality is a strategic decision affected by management incentives since managers are directly responsible for firms' financial reporting choices. Bamber et al. (2010) provide evidence of the significant influence that managers exert over management earnings forecasts after allowing for firm fixed effects and other controls. Ge et al. (2011) show that CFOs affect financial reporting choices. Also, the findings in Yang (2012) indicate that individual managers could benefit from constructing a personal disclosure reputation. Therefore, it is natural to expect that blockholders can potentially influence the firms' disclosure quality through their influence on managerial behavior.

Besides managerial ownership (Jensen and Meckling 1976) and institutional ownership (Bushee 1998; Ajinkya et al. 2005; Burns et al. 2010; Crane et al. 2016), blockholder ownership also serves as a significant governance mechanism to help control agency problems (Kaplan and Minton 1994; Edmans and Manso 2011). Because most blockholders have sizable stakes, they have incentives to invest more in influencing managers than those with smaller holdings. Blockholders who differ both in their reasons for holding a firm's stock and access to private information, potentially, have differential abilities and incentives to monitor managers, which they do through different channels. In classical models, blockholders exert governance through direct intervention in a firm's operations, otherwise known as "voice." Empirical research

investigates the determinants and consequences of activism. For example, Gantchev (2013) provides benchmarks for monitoring costs and evaluates the net returns to shareholder activism and find that the estimated monitoring costs reduce activist returns by more than two-thirds. Klein and Zur (2009) indicate that activists frequently gain board representation through real or threatened proxy solicitations. In addition, Brav et al. (2008) find that target firms experience increases in payout, operating performance, and high CEO turnover after activism.

When the direct invention is not feasible or too costly, blockholders can discipline managers by an implicit or explicit “threat to exit,” i.e., to sell their shares if the manager underperforms (Bharath et al. 2013). Both theoretical and empirical studies (Admati and Pfleiderer 2009; Edmans 2009; Edmans and Manso 2011) find that compared to small investors, blockholders are informed investors whose exit sends a credible signal of lower firm value to the market, resulting in a decline in the firm’s stock price. Managers face a direct personal cost from a stock price decline when their wealth is tied to stock price. They also face an indirect cost in the form of a loss of reputation if the stock price declines. Therefore, they are incentivized to align their actions with the interests of blockholders to prevent the blockholders’ exit. By reducing the likelihood of opportunistic management actions, the implicit or explicit threat of exit could result in better governance and more transparent financial disclosures.

On the one hand, Shleifer and Vishny (1997) suggest that large shareholders have incentives to extract gains from creditors and other shareholders. Specifically, large shareholders may benefit from earnings management through the firm reducing the cost of unaffiliated financing and debt covenant violations (Jiang 2008) and extracting private benefits from smaller shareholders (Shleifer and Vishny 1997). The private benefits extraction could partly be facilitated by obfuscation. Therefore, the holdings of some large shareholders may result in lower disclosure quality. Furthermore, as ownership becomes widely dispersed, it is

economically less desirable for individual shareholders to incur significant monitoring costs, because they will receive only a small portion of the benefits. The inability or lack of incentive for small shareholders to monitor managerial actions is the free rider problem (Grossman and Hart 1980) that reduces the incentive of blockholders to improve disclosure quality.

Following Cheng and Reitenga (2001) and Dou et al. (2016), I use both the size of blockholders' holdings and the total number of blockholders to measure the influence that blockholders on firms' textual disclosure quality. Given the mixed evidence in the literature, the first hypothesis (stated in the null form) is:

*H1a: There is no association between the aggregate blockholder ownership and the readability of firms' 10-K reports.*

*H1b: There is no association between the total number of blockholders and the readability of firms' 10-K reports.*

### **3.2 The Categorization Based on Blockholders' Filing Choices**

I next address the heterogeneity of incentives across blockholders. Traded company Section 13(d) of Security Exchange Act of 1934 requires that investors must file a disclosure with SEC within ten days of acquiring more than 5% of any class of securities of a publicly traded company if they have an interest in influencing the management of the company. Congress intended that the filing of a Schedule 13D would notify the market that the filer might seek to force changes or seek control of the target company. Examples of such changes are the potential sale of the company, a change in senior management or a change in corporate governance practices. In contrast, passive investors who acquire more than 5%, but less than 20% of a company's stock and do not intend to influence control at the target company, but are merely investing in the ordinary course of business, are allowed to file Schedule 13G within 45



days before the end of the calendar year in which they cross this ownership threshold. Therefore the filing of a Schedule 13D typically foreshadows an activist event.

I collect all 13D (including amendment filings) and 13G filings (including amendment filings) from the SEC Edgar website from 1994-2017, and the blockholder panel data to identify the different blockholder purposes associated with the transactions. I classify blockholders into three different groups based on their filing choices and their affiliation with the management of target firms (Borokhovich et al. 2006): unaffiliated 13D filers, affiliated 13D filers, and 13G filers.

Unaffiliated 13D blockholders are 13D filers who are neither managers/directors of the firm nor related to managers/directors. Unaffiliated blockholders are regarded as an effective monitoring mechanism because they have both the ability and incentives to influence management's activities either by the voting rights they acquire from their shareholdings, (Klein 2002) or by trading their shares (Gillan and Starks 2003). Unaffiliated blockholders are associated with lower earnings management (Dechow et al. 1996; Cheng and Reitenga 2001; Chung et al. 2003), higher management turnover (Kang and Shivdasani 1995), stricter control over executive compensation (David et al. 1998; Bertrand and Mullainathan 2001), and better corporate performance (McConnell and Servaes 1990). Borokhovich et al. (2006) find that the market views unaffiliated blockholders as better monitors of management than affiliated blockholders. Further, they find that firms in which unaffiliated blockholdings exceed affiliated blockholdings exhibit more positive stock price reactions to antitakeover amendment proposals than do firms in which affiliated blockholders exceed unaffiliated blockholders. Specific categories of blockholders, however, care about things other than increasing shareholder wealth, such as better supply contracts or influencing operating and investing management decisions in

their favor. Such blockholders could sacrifice shareholder wealth to satisfy their other objectives (Camara 2004). In effect, certain blockholders could exacerbate managerial opportunism in financial reporting, resulting in lower disclosure quality.

The findings on affiliated blockholder ownership as active monitors are also mixed. Affiliated blockholders, for example, firm managers, are better agents as their stock ownership aligns their interests with those of outside shareholders. Managerial ownership is associated with lower earnings management (Warfield et al.1995). However, beyond a certain level, it may also be a sign of managerial entrenchment (Morck et al. 1988). Higher levels of managerial ownership increase insider blockholder power and could lead to value destroying behavior at the expense of minority shareholders (Stulz 1988; McConnell and Servaes 1990). Based on these arguments, my second hypothesis, stated in the null form, is:

*H2a: There is no association between unaffiliated 13D blockholders and the readability of 10-K reports.*

*H2b: There is no association between affiliated 13D blockholders and the readability of 10-K reports.*

### **3.3 The Categorization Based on Blockholders' Different Intentions**

An activist shareholder is one who acquires an equity stake in the corporation to bring about changes and put pressure on the target firm's management. The goals of activist shareholders could be financial, such as the increase of shareholder value through changes in corporate policy, financing structure, and cost-cutting, or non-financial, such as disinvestment from specific countries, and adoption of environmentally friendly policies. A small stake (less than 10% of outstanding shares) may be enough to launch a successful campaign. Since activists intend to take actions such as changing the board, replacing the CEO or a director, and changing

the compensation structure, the acquisition of stocks by them may induce the managers to hide more information and write less transparent 10-K reports when facing the potential pressure of being replaced.

If the blockholdings are aimed at exploring possible undervaluation of the equity without any intention to change the firm, an improvement in transparency could make the market increase the firm's market value and reduce the undervaluation. An informed blockholder would like to buy the stock when it is undervalued when she sees potential undervaluation of a firm and then make the firm more transparent to realize the previously unrealized value of equity. Therefore, the main demand of these investors is an improvement in transparency through improved public disclosure. Managers are more likely to cater to this demand by improving the readability of the 10-K reports especially when they are not threatened.

Unlike active investors, who can signal dissatisfaction with management's decisions or an ineffective board by selling a stock, passive investors lack the financial incentive to invest in improving governance at portfolio companies (Shapiro and Lund 2017). First, a passive investor tends to hold very large portfolios, which makes it unlikely to enhance the fund's overall performance significantly by improving governance at a single firm. Second, a free rider problem hurts a passive investor's incentive of investment in improving governance equally benefits all investors invested in that firm but bears the costs. Therefore, costly intervention is less attractive to passive investors in the first place.

However, basing the categorization directly on the blockholders' filing choices is problematic. Although the SEC requires 13D filers to state their purpose in acquiring the target firms' securities and explain their proposals or plans, I find that some 13D filers do not have

intentions to be activists.<sup>22</sup> They usually mention “the Reporting Person does not have any present plan or proposal which would relate to or result in any of the matters set forth in subparagraphs (a) - (j) of Item 4 of Schedule 13D.”<sup>23</sup> The only reason they hold the block is for investment purpose. Therefore, I use Python to collect specific keywords in Item 4 labeled “Purpose of Transaction” and use factor analysis to categorize unaffiliated 13D filers into three categories based on those keywords. The keywords related to factor1 are *SHAREHOLDER VALUE, DEMAND/REQUEST ACTION, PROFIT, RESIGN* and *REPLACE/ELECT/NOMINATE*, which represents active monitoring and discipline. This type of 13D filing may cause the target firm to become hostile to the blockholder and restrict access to management and firm-specific sources of information. I define them as management-focused blockholders. The keywords related to factor2 include “*DIVIDEND,*” “*STRUCTURE,*” and “*CHANGE.*” This type of blockholders may demand changes because they are dissatisfied with the payment of dividends or the operational/compensation/capital structure of the firm. Managers in target firms, reluctant to make changes, are more likely to write less transparent reports to obfuscate information. I define this type of blockholders as policy-focused blockholders. The keywords related to factor3 include “*UNDERVALUE,*” and “*INVESTMENT.*” The acquisition of blocks is aimed at exploring possible undervaluation of equity without any particular intention to monitor or change the management of target firms. Managers in target firms likely do not fear this type of blockholders who do not threaten their job or policies. They are willing to cooperate by providing more transparent information because an improvement in disclosure transparency

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<sup>22</sup> Another classification issue is that any investor who holds 20% or more needs to file a 13D even if she intends to remain passive. This type of blockholders is less than 2.2% of our sample and excluding the firms with investors whose blockholders are at least 20% doesn't affect my results.

<sup>23</sup> P.8, [https://www.sec.gov/Archives/edgar/data/1296205/000147793214005461/zagg\\_sc13da.htm](https://www.sec.gov/Archives/edgar/data/1296205/000147793214005461/zagg_sc13da.htm).

could improve the firm's market value and reduce the undervaluation. I define this type of blockholders as information-focused blockholders. The categorization is shown in Figure 1.

Insert Figure1 here

Therefore, the hypotheses are stated as below:

*H3a: Firms with unaffiliated management-focused blockholders produce less readable 10-K reports.*

*H3b: Firms with unaffiliated policy-focused blockholders produce less readable 10-K reports.*

*H3c: Firms with unaffiliated information-focused blockholders produce more readable 10-K reports.*

### **3.4 Other Factors**

Ajinkya et al. (2005) show that firms with higher institutional ownership tend to provide better disclosure. If the level of readability is a strategic disclosure choice, it is expected that a higher level of institutional monitoring may temper the negative influence or strengthen the positive influence on the readability that management-focused blockholders might have. To test this, I sort my sample based on the percentage of institutional ownership after subtracting the institutional ownership which is higher than five percent (*INSTOWN\_NOBH*). I create two dummy variables: *Q1\_IO* and *Q4\_IO*. *Q1\_IO* equals to 1 if the non-blockholder institutional ownership is in the bottom quartile, and 0 otherwise; *Q4\_IO* equals to 1 if the non-blockholder institutional ownership is in the top quartile, and 0 otherwise. Following the above arguments, I state the following hypothesis:

*H4a: Non-blockholder institutional ownership affects the relationship between the presence of management-focused blockholders and the readability of firms' 10-K reports.*

Bebchuk et al. (2008) create an Entrenchment Index ( $E\_INDEX$ ), which is a robust indicator of the degree of managerial entrenchment. The index is based on six provisions: staggered boards, limits to shareholder amendments, poison pills, golden parachutes, super-majority requirements mergers, and charter amendments. Firms with higher E-index scores represent a higher degree of management entrenchment, indicating lower governance. I sort my sample based on  $(-1)*E\_INDEX$  and create two dummy variables:  $Q1\_GOVN$  and  $Q4\_GOVN$ .  $Q1\_GOVN$  equals to 1 if Entrenchment Index is in the top quartile (governance in the bottom quartile), and 0 otherwise;  $Q4\_GOVN$  equals to 1 if Entrenchment Index is in the bottom quartile (governance in the top quartile), and 0 otherwise. The hypothesis on the effect of governance is stated as below:

**H4b:** *Governance affects the relationship between the presence of management-focused blockholders and the readability of firms' 10-K reports.*

### **3.5 The Effects of Blockholders' "Exit Threat" on Readability of 10-K Reports**

McCahery et al. (2015) suggest that institutions use "exit" trades frequently, and Parrino et al. (2003) provide evidence that aggregate institutional ownership and the number of institutional investors decline in the year before forced CEO turnover. Besides actually exiting, blockholders can threaten to exit. Blockholders have strong incentives to gather private information and sell their shares when managers are perceived to underperform. To prevent blockholders from selling their shares and the firm suffering a stock price decline, managers align their actions with the interests of shareholders. As a result of the greater manager-shareholder alignment, managers' actions are more likely to be in shareholders' best interest, and consequently, there is less pressure for managers to manipulate earnings. Bharath et al. (2013) find that blockholders' threat of exit significantly enhances firm value by better aligning

managers' and shareholders' interests. Dou et al. (2018) find evidence that as exit threat increases, firms have higher financial reporting quality. The above theoretical and empirical studies provide evidence consistent with blockholders' exit and the threat of exit positively affecting managerial behavior. I argue that this improved alignment increases the firms' disclosure quality by reducing managers' incentives to obfuscate in the first place. Following Dou et al. (2018), I focus on the interaction between blockholder competition and stock liquidity to capture the intensity of exit threat. Accordingly, the hypothesis is stated as below:

*H5: Blockholders' threat to exit induces firms to produce more readable 10-K reports.*

## Chapter 4

### Research Design

#### 4.1 Readability

To make sure my results are not specific to any single measure of readability and to alleviate the influence of measurement error for any single measure, I construct a variable *READ*, which is the first principal component of nine readability measures: the Gunning Fog Index (*GFI*), Length (*LENGTH*), file size (*FILESIZE*), Bog Index(*BOG*), Flesch-Kincaid Index(*FLESCH\_KINCAID*), RIX Index(*RIX*), LIX Index(*LIX*), Automated Readability Index (*ARI*), and SMOG Index(*SMOG*), all of which are popular in the accounting and finance literature (Bushman et al. 2004). I exclude the words and phrases that are in common use in accounting and finance documents but would otherwise be considered complex. I obtained a list of accounting and finance terms from Prof. McDonald<sup>24</sup>. After excluding these words, the Gunning Fog Index (*GFI*) is calculated using the following equation:

$$GFI = (Words\_per\_sentence + Percent\_of\_complex\_words) * 0.4 \quad (1)$$

In (1), the complex words are defined as words with two syllables or more. The relationship between the Gunning Fog Index and reading ease is as follows: *GFI* ≥18 signifies that the text is unreadable; 14-18 shows that it is difficult; 12-14 is ideal; 10-12 is acceptable, and 8-10 is childlike. Higher values of the *GFI* indicate that the text consists of long sentences and complex words that are likely to make the text more difficult to understand. The original measure, although frequently used in the literature, has been criticized for misspecification problems in the financial context (Loughran and McDonald 2014). The modification of the index

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<sup>24</sup> I sincerely thank Tim Loughran and Bill McDonald for their willingness to share their list of accounting jargon.



mitigates this problem. Following Guay et al. (2016), I also include five other readability measures as follows:

$$FLESCH\_KINCAID = 0.39 * \left( \frac{\text{Number of the words}}{\text{Number of sentences}} \right) + 11.8 * \left( \frac{\text{Number of syllables}}{\text{Number of words}} \right) - 15.59 \quad (2)$$

$$LIX = \left( \frac{\text{Number of the words}}{\text{Number of sentences}} \right) + \left( \frac{\text{Number of words over 6 letters} * 100}{\text{Number of words}} \right) \quad (3)$$

$$RIX = \left( \frac{\text{Number of the words with 7 character or more}}{\text{Number of sentences}} \right) \quad (4)$$

$$ARI = 4.71 * \left( \frac{\text{Number of the characters}}{\text{Number of words}} \right) + 0.5 * \left( \frac{\text{Number of words}}{\text{Number of sentences}} \right) - 21.43 \quad (5)$$

$$SMOG = 1.043 * \sqrt{\left( \frac{30 * \text{Number of the words more than two syllables}}{\text{Number of sentences}} \right)} + 3.1291 \quad (6)$$

Also, I measure the length of the firm's financial documents as the natural logarithm of the number of words (Li 2008; You and Zhang 2009; Miller 2010; Lee 2012; Peterson 2012; Lawrence 2013).

$$LENGTH = \log (NWORDS) \quad (7)$$

When the document is long, the extraction of relevant information becomes costly and tedious (Bloomfield, 2002). Given this, managers who strategically want to obfuscate information are more likely to produce long documents that allow them to bury undesired information so that it is less likely to attract attention from investors and market participants.

Following Loughran and McDonald (2014), I measure *FILESIZE* as the natural logarithm of the gross file size of the financial documents, measured in bytes. Loughran and McDonald (2014) define readability as the ability of individual investors and analysts to assimilate valuation-relevant information from financial disclosure. I include this measure since Loughran and McDonald (2014) present evidence that a larger 10-K report *FILESIZE* results in higher return volatility, greater forecast dispersion, and lower analyst forecast accuracy.

Finally, I use the multi-faceted measure of disclosure clarity, the Bog Index, which is based on plain English principles and captures the spirit of almost all the SEC's guidelines

regarding clear communication with investors (Bonsall IV et al. 2017). The Bog Index is derived from a commercial software program, StyleWriter, which captures attributes mentioned explicitly in the SEC Plain English Handbook, including sentence length, passive voice, weak verbs, over-used words, complex words, and jargon (SEC, 1998b). Among these many features of the Bog Index, one unique aspect of the measure stems from how word complexity is determined. Rather than assuming all multi-syllabic words are complex, as is done in computing the Fog Index, word complexity is instead determined by word familiarity based on a list of over 200,000 words.

All nine readability indexes measure the level of reading ease. Higher values of those indexes indicate that the text is more difficult to understand. Because this is an inverse measure of the ease of textual readability, I multiply it by (-1) to obtain the aggregate *READ* variable.<sup>25</sup> The procedures followed in the computation of *READ* are explained in Appendix B.

#### 4.2 Complexity-adjusted Readability

Following Li (2008), I build an expectation model for the readability of 10-Ks controlling for complexity factors, e.g., business complexity financial complexity. The complexity factors included in the readability expectations model are the number of operating business segments, the number of geographic segments, and the number of non-missing items in Compustat. I use the following expectation model:

$$READ = \beta_0 + \beta_1 * BUSSEG + \beta_2 * GEOSEG + \beta_3 * NM\_ITEMS + \varepsilon \quad (8)$$

The residual from equation (8) is orthogonal to business operation and financial complexity, and I use this as the complexity-adjusted readability of 10-K (*READI*). The

<sup>25</sup> That is, the larger the value of my Readability measure (*READ/READI*), the easier it is to understand the relevant information in the document. I provide details of the principal component analysis and the eigenvector in the notes to Table 3.

complexity-adjusted readability is the potion that managers can use if they want to obfuscate the 10-K reports. Therefore, a relationship between the presence of certain types of blockholders and complexity-adjusted readability supports the view that certain types of blockholders may elicit managerial obfuscation of textual material in financial documents. The results are presented in Table 4 Column (1).

### **4.3 Numerical Earnings Quality and Control Variables**

I use the absolute value of performance-adjusted discretionary accruals (Kothari et al. 2005) as the measure of numerical earnings quality. I provide the computations of discretionary accruals (*DA*) in Appendix E. I also include an array of firm characteristics that are likely to affect the readability of firms' 10-K reports, including firm size (*LN\_AT*), market to book (*MTB*), special items (*SPI*), volatility of market returns (*RETSTD*), volatility of earnings in the past five years (*EARNSTD*), firm age (*AGE*), return on assets (*ROA*), an indicator variable for mergers and acquisitions over the last three years (*MA*), an indicator variable for the seasoned equity offering events for the year (*SEO*), and an indicator variable if the firm is incorporated in Delaware (*STATE*).

### **4.4 Endogeneity Problems**

An important empirical challenge comes from the possibility that the targeting decisions of blockholders are endogenous with respect to some latent characteristics of the firms. Blockholders may selectively invest in firms in response to the level of financial statement transparency. I address the endogeneity issue by including the interaction between year dummy and industry dummy in the main regression model to control for unobserved, time-invariant sources of heterogeneity that change both across year and industry. I also employ the propensity-score-matching method to control for a variety of observable characteristics between the

treatment group (13D filers) and control group (13G filers). The target firms are matched with the firms with only 13G filers. Following Brav et al. (2008), I estimate the propensity score, which is the predicted probability of becoming an activist target, from a logistic regression model. I identify the control group with the closest propensity score of the target firms using radius matching. The regression model to predict if firms will be targets of 13D filers is:

$$\begin{aligned} \text{Target} = & \\ & \alpha + \beta_1 * LN\_AT + \beta_2 * TOBINQ + \beta_3 * \Delta SALES + \beta_4 * ROA + \beta_5 * LEVERAGE + \beta_6 * DIVIDENDS + \beta_7 * \\ & R\&D + \beta_8 * HHI + \beta_9 * ANALYST + \beta_{10} * INSTOWN + \text{industry fixed effects} + \text{year fixed effects} + \varepsilon \end{aligned} \quad (9)$$

The control variables include firm size (*LN\_AT*), q (*TOBINQ*), sales growth (*ΔSALES*), return on assets (*ROA*), leverage (*LEVERAGE*), DIVIDENDS (*DIVIDENDS*), Research & Development (*R&D*), Herfindahl-Hirschman index of sales in different business segments (*HHI*), the number of analysts (*ANALYST*), and institutional ownership (*INSTOWN*). I also control for industry and year fixed effects.

#### 4.5 Empirical Model to Test H1

Following the literature, I estimate the following regression to investigate the impact of the presence of blockholders on the readability of 10-K reports:

$$\begin{aligned} \text{Readability} = & \\ & \alpha + \beta * TOTALOWN + \mu * DA + \theta * \text{controls} + \text{industry fixed effects} + \text{year fixed effects} + \\ & \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \end{aligned} \quad (10)$$

$$\begin{aligned} \text{Readability} = & \alpha + \beta * NUMALL + \mu * DA + \theta * \text{controls} + \text{industry fixed effects} + \text{year fixed effects} + \\ & \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \end{aligned} \quad (11)$$

$$\begin{aligned} \text{Readability} = & \alpha + \beta * GROUP + \mu * DA + \theta * \text{controls} + \text{industry fixed effects} + \text{year fixed effects} + \\ & \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \end{aligned} \quad (12)$$

In the above equations, the dependent variable could be either the raw readability measure (*READ*) or the complexity-adjusted readability measure (*READI*). It is possible that the level of readability is associated with the level of numerical earnings quality—discretionary accruals (Kothari et al. 2005). Therefore, in addition to several control variables, I also control

the level of discretionary accruals (*DA*). Both the number of all blockholders (*NUMALL*) and the aggregate ownership of blockholders (*TOTALOWN*) are the variables of interest.

#### 4.6 Empirical Model to Test H2 and H3

To examine the unexplained proportion of blockholders' heterogeneity and investigate whether and how the existence of different types of blockholders affects textual disclosure quality, I employ both the full sample and propensity-score-matched sample by using the following regression:

$$\text{Readability} = \alpha + \beta * \text{BLOCKHOLDERS} + \mu * \text{DA} + \theta * \text{controls} + \text{industry fixed effects} + \text{year fixed effects} + \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \quad (13)$$

In the above equations, *Readability* could be either the raw readability measure (*READ*) or the complexity-adjusted readability measure (*READI*). The main variables of interest (*BLOCKHOLDERS*) could be the number (*NUM\_13D*; *NUM\_13G*; *INNUM\_13D*; *OUTNUM\_13D*) and ownership (*SHARE\_13D*; *SHARE\_13G*; *INSHARE\_13D*; *OUTSHARE\_13D*) of different types of blockholders. I first categorize different types of blockholders based on their filing choices: 13D filers and 13G filers. I further categorize 13D filers into unaffiliated and affiliated 13D filers. I finally categorize unaffiliated 13D filers into management-focused blockholders, policy-focused blockholders, and information-focused blockholders based on the keywords used in Item 4 of their filings.

#### 4.7 Empirical Model to Test H4

Ajinkya et al. (2005) show that firms with higher institutional ownership provide better disclosure. If the level of readability is a strategic disclosure choice, it is expected that a higher level of institutional monitoring may have a moderating influence on the readability that management-focused blockholders might have. One potential problem is that institutions could

be blockholders if the institutional ownership is higher than five percent. Therefore, I create a new variable, *INSTOWN\_NOBH*, to measure the non-blockholder institutional ownership. The following regression model is used to test how the non-blockholder institutional ownership will affect the relationship between the presence of management-focused blockholders and the readability of 10-K reports.

$$Readability = \alpha + \beta_1 * OUT\_FACTOR1 + \beta_2 * Q\_IO + \beta_3 * OUT\_FACTOR1 * Q\_IO + \theta * controls + industry\ fixed\ effects + year\ fixed\ effects + industry\ fixed\ effects * year\ fixed\ effects + \varepsilon \quad (14)$$

I sort my sample based on the percentage of non-blockholder institutional ownership (*INSTOWN\_NOBH*). I create two dummy variables: *Q1\_IO* and *Q4\_IO*. *Q1\_IO* equals to 1 if *INSTOWN\_NOBH* is in the bottom quartile, and 0 otherwise; *Q4\_IO* equals to 1 if *INSTOWN\_NOBH* is in the top quartile, and 0 otherwise.

Bebchuk et al. (2008) develop an Entrenchment Index (*E\_Index*), which is a robust indicator of the degree of managerial entrenchment. The index is based on six provisions: staggered boards, limits to shareholder amendments, poison pills, golden parachutes, super-majority requirements mergers, and charter amendments. Firms with higher E-index scores represent more management entrenchment, indicating weaker governance. The following regression model is used to test how governance (*GOVERNANCE*) will affect the relationship between the presence of management-focused blockholders and the readability of 10-K reports.

$$Readability = \alpha + \beta_1 * OUT\_FACTOR1 + \beta_2 * Q\_GOVN + \beta_3 * OUT\_FACTOR1 * Q\_GOVN + \theta * controls + industry\ fixed\ effects + year\ fixed\ effects + industry\ fixed\ effects * year\ fixed\ effects + \varepsilon \quad (15)$$

I sort my sample based on  $(-1)*E\_INDEX$  and create two dummy variables: *Q1\_GOVN* and *Q4\_GOVN*. *Q1\_GOVN* equals to 1 if *E\_INDEX* is in the top quartile (*GOVERNANCE* in the bottom quartile), and 0 otherwise; *Q4\_GOVN* equals to 1 if *E\_INDEX* is in the bottom quartile (*GOVERNANCE* in the top quartile), and 0 otherwise.

## 4.8 Empirical Model to Test H5

Furthermore, following Dou et al. (2018) I test whether blockholders' threat to exit results in more readable 10-K reports by estimating the following regression model:

$$\text{Readability} = \alpha + \beta_1 * BH\_COMPET + \beta_2 * LIQUIDITY + \beta_3 * BH\_COMPET * LIQUIDITY + \theta * \text{controls} + \text{industry fixed effects} + \text{year fixed effects} + \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \quad (16)$$

Blockholders competition (*BH\_COMPET*) is measured by the Herfindahl Index of block ownership, multiplied by minus one. *LIQUIDITY* is defined based on stock turnover, which is widely used in the literature as a liquidity measure. Edmans and Manso (2010) argue that competition among blockholders results in more information being used to set pricing and thereby improved governance. Edmans (2009) shows that market illiquidity precludes the blockholder from trading on private information. This lessens the chance of a threat to exit affecting management. Therefore the interaction between blockholders' competition and liquidity (*BH\_COMPET \* LIQUIDITY*) measures the intensity of blockholders' threat to exit, which is the main variable of interest in Equation (16).

## 4.9 Additional Tests

### 4.9.1 Numerical Earnings Quality and Textual Disclosure Quality

The linkage between numerical earnings quality and textual disclosure quality is explored next. Managers in the target firms respond differently to different types of blockholders with different intentions. Lo et al. (2017) find firms that are more likely to have managed earnings write less readable MD&A. Following this logic, there can be a complementary relationship between earnings management and textual obfuscation. Facing the pressures from aggressive activists, managers in the target firms may choose to not only distort the earnings number but also hide the information by intentional obfuscating the 10-K reports. I test this conjecture by examining whether the decrease in both readability and complexity-adjusted readability is more

or less pronounced when the managers in the target firms manipulate their earnings number<sup>26</sup>. I interact the level of discretionary accruals (*DA*) with management-focused blockholders (*OUTFACTOR1*), policy-focused blockholders (*OUTFACTOR2*) and information-focused blockholders (*OUTFACTOR3*), respectively, and include the interaction terms, one at a time, in the regression models as follows:

$$\begin{aligned} \text{Readability} = & \\ & \alpha + \beta * \text{OUT\_FACTOR1} + \mu * \text{DA} + \varphi * \text{OUT\_FACTOR1} * \text{DA} + \theta * \text{controls} + \text{industry fixed effects} + \\ & \text{year fixed effects} + \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \end{aligned} \quad (17)$$

$$\begin{aligned} \text{Readability} = & \\ & \alpha + \beta * \text{OUT\_FACTOR2} + \mu * \text{DA} + \varphi * \text{OUT\_FACTOR2} * \text{DA} + \theta * \text{controls} + \text{industry fixed effects} + \\ & \text{year fixed effects} + \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \end{aligned} \quad (18)$$

$$\begin{aligned} \text{Readability} = & \\ & \alpha + \beta * \text{OUT\_FACTOR3} + \mu * \text{DA} + \varphi * \text{OUT\_FACTOR3} * \text{DA} + \theta * \text{controls} + \text{industry fixed effects} + \\ & \text{year fixed effects} + \text{industry fixed effects} * \text{year fixed effects} + \varepsilon \end{aligned} \quad (19)$$

If there is a complementary (substitute) relationship between earnings management and readability obfuscation, then the coefficients on the interaction terms should be negative (positive). Alternatively, if the level of earnings management does not affect how the managers in the target firms write their 10-K reports, the coefficients on the interaction terms should be insignificant.

#### 4.9.2 Levels versus Changes

My main regression specification (Equation (13)) treats all variables of interest in levels. As an alternative, I use a change specification to re-estimate Equation (13). Following Brockman et al. (2010), I measure the year-over-year changes for both dependent and the continuous independent variables by taking their first difference ( $\Delta$ ).

For management-focused blockholders, I sort my sample based on  $\text{DIFFOUT\_FACTOR1} = (\text{OUT\_FACTOR1}_t - \text{OUT\_FACTOR1}_{t-1})$  and create two dummy variables:  $Q1\_DIFFFACTOR1$  and  $Q4\_DIFFFACTOR1$ .  $Q1\_DIFFFACTOR1$  equals to 1 if

<sup>26</sup> The assumption is that managers decide to manipulate earnings and obfuscate 10-K reports simultaneously, even though it is possible that managers use them sequentially.



*DIFFOUT\_FACTOR1* is in the bottom quartile, and 0 otherwise; *Q4\_DIFFFACTOR1* equals to 1 if *DIFFOUT\_FACTOR1* is in the top quartile, and 0 otherwise. I also create two dummy variables for policy-focused blockholders (*Q1\_DIFFFACTOR2* and *Q4\_DIFFFACTOR2*) and information-focused blockholders (*Q1\_DIFFFACTOR3* and *Q4\_DIFFFACTOR3*), respectively.

The regression model is as follows:

$$\Delta Readability = \alpha + \beta * Q\_DIFFFACTOR + \mu_1 * \Delta DA + \mu_2 * \Delta LN\_AT + \mu_3 * \Delta MTB + \mu_4 * \Delta SPI + \mu_5 * \Delta RETSTD + \mu_6 * \Delta EARNSTD + \mu_7 * \Delta AGE + \mu_8 * \Delta ROA + \mu_9 * MA + \mu_{10} * SEO + \mu_{11} * STATE + industry\ fixed\ effects + year\ fixed\ effects + industry\ fixed\ effects * year\ fixed\ effects + \varepsilon \quad (20)$$

If  $\beta$  is significant for certain types of blockholders, the main results will be robust to this alternate specification.

## Chapter 5

### Data and Sample

To investigate the effects of different types of blockholders and the interactions among different type of blockholders, I need a dataset to identify each unique blockholder. Such a dataset, however, is not available from standard datasets. I manually identify and construct the blockholder-firm panel dataset for the period 2011-2016 from companies' final proxy statements. The collected information includes the name of the blockholders, the percentage of holdings, blockholders' filling types (13D/G filings), the ownership of officers and/or directors as a group, and number of the blockholders. Following Dlugosz et al. (2006), whose panel dataset is from 1996 to 2001, I use the ISS sample (S&P1500) as the starting point because a wide range of governance and director/executive data is available for this group of companies. Less than 10% of the ISS companies in all years have multiple classes of common stock. Anderson and Lee (1997b) show there are many problems with this special subset of the data, and these problems are challenging to correct. Following prior studies including Dlugosz et al. (2006), Cronqvist and Fahlenbrach (2008), and Dou et al. (2016), I eliminate all the multiple-class firms from the dataset. When the company reports the ownership of both common stock and preferred stock side by side, I include only the common-stock component of voting. Anderson and Lee (1997a) point out that trading data are difficult to work with and cannot be relied upon to infer the holdings of individual blockholders, although it provides the most current and comprehensive information. Following Dlugosz et al. (2006), I use the voting power when companies report both beneficial ownership and investment power in their proxy statements. Also, I exclude all the family firms' observations throughout my sample period. A family firm is defined as a company where family ties, most often going back a generation or two to the founder, play a crucial role in

both ownership and board membership. Family members may not have full control of the shareholder vote (greater than 50%), but will generally hold at least 20%. The data are obtained from MSCI (GMI ratings).

Although blockholder information is available from several sources, such as Compact Disclosure, Execucomp, IRRC Directors, Thomson Reuters (13F), insider trading filings and 13D/G filings, they all suffer from different problems. As argued by Dlugosz et al. (2006), Compact Disclosure double-counts blockholder ownership and include the sum of both common stock and preferred stock without distinguishing between the two categories. ExecuComp and IRRC Directors only include the ownership of top managers and executives. Thomson Reuters (13F) only provides ownership by institutions. Insider trading information suffers from incorrect inferences regarding the holdings of large shareholders (Jeng et al. 2003). 13D/G filings do not apply to existing blockholders.

The SEC requires that all beneficial owners of more than 5% of a company's common stock should be listed in the proxy statement, creating a potential problem of double or triple shares counted under different people or entities. Although the information about the ownership structure of jointly held blocks is required to be disclosed in the footnotes, most datasets on blockholders ignore the footnotes. It is the footnotes that explain the joint or cross-ownership of shares and list every blockholder and ownership percentage precisely as it appears in the summary table of the proxy section "Security Ownership of Management and Certain Beneficial Owners." This results in overlaps in reported ownership. For example, two or more blockholders are listed in the ownership table with similar shareholdings and the joint ownership of these shares is disclosed only in the footnotes. Following Dlugosz et al. (2006), when the information in the footnotes is not enough to determine the ultimate control of the shares, I assign the shares

to the partial owner who is closest to the control of the company: officers first, directors next, and then outsiders.

“Security Ownership of Certain Beneficial Owners and Management”<sup>27</sup> in companies’ proxy statements discloses the name, ownership, and filing types<sup>28</sup> of each beneficial owner. To identify and investigate the different types of blockholders when blockholder filing types are not disclosed, I download all 13D (including amendment filings) and 13G filings (including amendment filings) from the SEC Edgar website between 1994 and 2017<sup>29</sup>, and merge them with the blockholder panel data. In this way, I can categorize the blockholders based on 13D/G filings without errors. It is problematic that some studies (e.g., Brown et al. 2018) use only 13D/G filings to categorize blockholders because 13D/G filing requirements fail to apply to the existing blockholders.

The final sample consists of 5527 firm-years and covers 1047 individual firms. The sample selection process is shown in Table 1. The initial sample and governance data are from ISS. Financial data are obtained from Compustat, and stock return data are from CRSP. The data of family firms are obtained from MSCI (GMI ratings). Institutional ownership data are from Factset. M&A and SEO data are obtained from SDC. Analyst data are from I/B/E/S. Readability Indexes are calculated in Python after excluding all complex financial jargon (identified by Loughran and McDonald 2014 by using Cam Harvey’s finance dictionary) from raw 10-K reports downloaded from SEC Edgar website.

Insert Table1 here

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<sup>27</sup> Different companies may call this section differently, e.g. “Principal Shareholders,” “Beneficial Owners,” “Stock Ownership” and so on.

<sup>28</sup> Filing types are usually disclosed in the notes.

<sup>29</sup> It begins in 1994 because it was the first year that the SEC required public firms to submit key filings electronically.

## Chapter 6

### Empirical Results

#### 6.1 Descriptive Statistics

Table 2 provides descriptive statistics for selected variables in the sample. Panel A shows that, on average, blockholders hold 31.19% of the company, which is slightly less than that reported in Holderness (2009), where the mean is 39%. Holderness's sample consists of 428 randomly selected US-listed firms, but the firms in my sample are from the S&P 1500. The average number of blockholders in my sample is 3.84, and the median is 4. Directors/executives as a group account for an average of 5.48% of the company. I categorize the blockholders into the different groups based on the types of their Schedule 13 filings. Compared to 13D filers, 13G filers account for most of the blockholder ownership. 15.6% of the sample firms have at least one 13D filer, and approximately 2% of the sample firms have more than one 13D filers.

Table 2 Panel B indicates that the average level of discretionary accruals (*DA*) in my sample is 0.06, comparable to 0.07 reported by Dou et al. (2016). The mean for *ROA* (return on assets) is 0.047, comparable to 0.04 in Dou et al. (2018). The sample mean for *NM\_ITEMS* (natural log of non-missing items in Compustat) is 5.864, comparable to 5.675 in Chakrabarty et al. 2018. Also, the mean for *INSTOWN* (institutional ownership) is 0.633, comparable to 0.589 in Khurana et al. (2018). Panel C shows that the mean for the Gunning Fog Index (*GFI*) is 15.88<sup>30</sup>. The average Bog Index (*BOG*) in my sample is 85.77, comparable to 86.27 reported in Bonsall IV et al. (2017).

Insert Table 2 here

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<sup>30</sup> The raw value obtained before the removal of the financial terms for the mean (median) is 20.31 (20.19), slightly higher than 19.39 (19.24) reported by Li (2008) since my sample firms are from S&P 1500 which are bigger in terms of firm size. The significant reduction in the index after removing the financial terms is a validation of the need to do so.

Table 3 shows the Pearson correlations for the selected variables in the sample. All nine readability indexes are positively correlated (see Table 3 Panel A). Following Bushman et al. (2004), I conduct principal component analysis to construct a readability index (*READ*) that combines nine measures of readability. Panel A shows that *READ* loads on a single factor with an eigenvalue of 5.66, which is comparable to 5.62 reported by Guay et al. (2016). The loadings are 0.250 on *GFI*, 0.222 on *LENGTH*, 0.210 on *FILESIZE*, 0.203 on *BOG*, 0.406 on *FLESCH\_KINCAID*, 0.401 on *LIX*, 0.393 on *RIX*, 0.404 on *ARI*, 0.400 on *SMOG*. In panel B, I find that *READ* is positively and significantly correlated with both *OUTSHARE\_13D* and *OUTNUM\_13D*; but negatively and significantly correlated with both *INSHARE\_13D* and *INNUM\_13D*.

Insert Table 3 here

## 6.2 Multivariate Tests

Table 4 presents the results by using the full sample from estimating Equation (10), (11), and (12) to test whether the presence of aggregate blockholders is associated with raw readability (*READ*) and complexity-adjusted readability (*READI*). *TOTALOWN*, *NUMALL*, and *GROUP* are three variables I directly collect from each sample firm's proxy statement. Column (2) and column (3) show that the coefficients on *TOTALOWN* and *NUMALL* are negative and significant. The results indicate that after controlling for the level of discretionary accruals, industry fixed, year fixed, and the interaction between industry fixed and year fixed, greater blockholders ownership, on average, is associated with less readable 10-K reports, and a higher number of blockholders is also associated with less readable 10-K reports. The results are similar when I use the complexity-adjusted readability as the dependent variable (as shown in Columns (5) and (6)). Columns (4) and (7) show that the coefficients on *GROUP* are positive but not

significant, indicating there is no evidence of an association between directors/executives as a group and the readability of 10-K reports. Consistent with the findings in Li (2009), *ROA* is positively and significantly associated with the readability of 10-Ks in all columns.

Insert Table 4 here

The results in Table 4 indicate that there is a negative association between aggregate blockholders and readability of 10-Ks. Different types of blockholders, however, may influence how the management writes the 10-K reports differently, and their individual effects may, in the aggregate, affect each other. To investigate the heterogeneity of blockholders on textual disclosure quality, following Edmans and Holderness (2017), I categorize blockholders into groups. The first categorization is based on blockholders' voluntarily filing types: Schedule 13D filings and Schedule 13G filings. Table 5 Panel A presents the results by using the full sample from estimating Equation (13) to test the relationship between the presence of different types of blockholders (13G filers and 13D filers, respectively) and the readability of 10-K reports. The first two columns show that both the ownership and the number of 13G filers are significantly associated with less readable 10-k reports. There is no evidence of an association, however, as shown in Column (3), (4), (7), and (8), between 13D filers and the readability of 10-K reports.

For all 13D filers, I further classify them into affiliated 13D filers and unaffiliated 13D filers based on their affiliation to management. Unaffiliated 13D filers are regarded as effective monitors because they have both the ability and incentives to influence management's activities through their substantial shareholdings, which grant them voting rights (Klein 2002; Gillan, and Starks 2003), and also by trading their shares (Gillan and Starks 2003). Shleifer and Vishny (1997), however, suggest that large shareholders have incentives to extract gains from creditors and other shareholders. Affiliated 13D filers, on the other hand, are seen as better agents because

their stock ownership aligns their interests with those of outside shareholders. However, beyond a certain level, it may also be a sign of managerial entrenchment (Morck et al. 1988). Therefore, as stated in H2a, I do not predict the sign of the relationship between the presence of unaffiliated 13D filers and readability and between the presence of affiliated 13D filers and readability.

Inconsistent with H2a, Column (1) and (4) in Table 5 Panel B indicate that, on average, the greater ownership of unaffiliated 13D filers is associated with more readable 10-Ks (for both raw readability and complexity-adjusted readability). Column (3) and (4) show that the presence of affiliated 13D filers, however, is associated with less readable 10-Ks (the coefficient on *INSHARE\_13D* is negative with t-value of -2.180, and the coefficient on *INNUM\_13D* is negative with t-value of -2.043). Column (7) and (8) present similar results when the dependent variable is complexity-adjusted readability.

Insert Table 5 here

Panel A and Panel B in Table 6 present the results from estimating Equation (13) to test the relationship between the presence of different types of blockholders and the readability of 10-K reports when main variables of interest are replaced by the lagged blockholder variables. The overall results are very similar to those in Table 5.

Insert Table 6 here

Table 7 presents the results from estimating Equation (13) to test whether different types of blockholders affect the readability of 10-K reports by using the propensity-score-matching sample. The propensity score matching test is between firms with the specific types of 13D filer (treatment group) and firms with only 13G filers (control group) since most of my sample (84.4%) observations are firms with only 13G filers. Following Brav et al. (2008), I estimate the propensity score, which is the predicted probability of becoming an activist target, from Equation



(9). I identify the control group with the closest propensity score of the target firms using radius matching. Inconsistent with H2a, in Panel A, I find that the coefficients on *OUTNUM\_13D* are positive and significant (with t-value of 1.779 and 1.780) in Column (2) and (5) after controlling for the level of discretionary accruals (*DA*), industry fixed, year fixed, and the interaction between industry fixed and year fixed effects. In Panel B, the coefficients on *INSHARE\_13D* are negative and significant in Column (1) and (4) (with t-value of -1.996 and -1.924, respectively). Also, the coefficients on *INNUM\_13D* are negative and significant in Column (2) and (5) (with t-value of -1.766 and -1.700, respectively). The results indicate that, compared to the firms without any 13D filers, firms with higher number of unaffiliated 13D filers write more readable 10-K reports; but firms with both higher number and greater ownership of affiliated 13D filers produce less transparent 10-K reports.

Insert Table 7 here

In order to further explore whether and how different 13D filers have different effects on the readability of 10-K reports, I use Python software and abstract the frequency of 17 keywords used in Item 4 in 13D filings. The solutions of factor analysis among those 17 keywords (shown in Table 8 Panel A) and the Scree Plot (shown in Figure 1) indicate that three factors (with eigenvalues > 1) are retained which account for 66.07% of the variance. I then categorize unaffiliated 13D filers based on the three factors. Blockholders, who write keywords in Item 4 in 13D filings, such as *SHAREHOLDER VALUE*, *ACTION*, *TARGET BOARD*, *PROFIT* (long-term performance), *RESIGN*, are interested in actively monitoring management because they are not satisfied with the firms' performance and are grouped as management-focused blockholders. Blockholders who mention *DIVIDENDS*, *STRUCTURE*, and *CHANGE* in their 13D filings are categorized as policy-focused blockholders. Blockholders who do not have specific plans to

influence the management and acquire the securities just for investment purposes

(*INVESTMENT* and *UNDERVALUE*) are identified as the information-focused blockholders.

Panel B presents the results by using the full sample to test the relationship between the presence of three different types of unaffiliated 13D filers and the readability of the 10-K reports. Consistent with H3a, Column (1) and (4) indicate that the coefficients on *OUT\_FACTOR1* are negative and significant (coefficient=-0.103, t-stat=-3.516; coefficient=-0.101, t-stat=-3.507). Also, consistent with H3c, Column (3) and (6) show that the coefficients on *OUT\_FACTOR3* are positive and significant (coefficient=0.606, t-stat=2.968; coefficient=0.564, t-stat=2.629). Inconsistent with H3b, there is no evidence indicating a relationship between the presence of policy-focused blockholder and the readability of 10-K reports.

Insert Table 8 here

Panel A in Table 9 presents very similar but slightly weaker results to those in Panel B Table 8 by using the lagged variables. By using the propensity-score-matching sample, in Panel B, I find that the coefficients on both *OUT\_FACTOR1* and *OUT\_FACTOR2* are negative, but only those on *OUT\_FACTOR1* are significant, indicating that managers in firms with management-focused blockholders elicit less readable reports compared to firms with only 13G filers, presumably because these unaffiliated 13D filers indicate their intent to exercise monitoring and control over management. The coefficient on *OUT\_FACTOR3* is positive and significant, showing that, compared to managers in firms with only 13G filers, these managers make 10-K reports more transparent when they believe that unaffiliated 13D filers' investment is to exploit possible undervaluation of the equity without any particular intention to monitor or change the management.

Insert Table 9 here

Table 10 presents the results with additional interaction variables from estimating Equation (17), (18), and (19). In the first column, the coefficient on the interaction term,  $OUT\_FACTOR1 * DA$ , is negative and significant (coefficient=0.961, t-stat=3.970), indicating that managers complement textual disclosure obfuscation strategy with numerical earnings manipulation in resisting management-focused blockholders. A similar inference extends to the policy-focused blockholders. The coefficient on the interaction term,  $OUT\_FACTOR2 * DA$ , is negative and significant in Column (2). The coefficient on the interaction term,  $OUT\_FACTOR3 * DA$ , however, is not significant, suggesting that no evidence indicates that the level of discretionary accruals affects the positive relationship between the presence of information-focused blockholders and the readability of 10-K reports.

Insert Table 10 here

Table 11 presents the results by using the full sample from estimating Equation (14). This table tests the critical role that institutional ownership might play in the relationship between different types of blockholders and readability of 10-K reports. In Panel A the coefficients on  $OUT\_FACTOR1 * Q4\_IO$  in Column (3) and (4) are positive and significant, suggesting that non-blockholder institutional ownership in the top quartile helps to moderate the negative relationship between management-focused blockholders and the readability of 10-K reports. The results are consistent with the findings in Charkrabarty et al. (2018) that the governance effect of institutional ownership tempers the managerial action of writing less readable 10-K reports. There is no evidence showing that non-blockholder institutional ownership will affect the positive relationship between information-focused blockholders and the readability of 10-K reports.

Insert Table 11 here

Table 12 presents the results by using the full sample from estimating Equation (15). Panel A shows how the level of governance in the target firms influences the relationship between the presence of management-focused blockholders and readability of 10-K reports. The coefficient on *OUT\_FACTOR1*\* *Q1\_GOVN* is negative and significant in Column (1) and (2), suggesting that the bottom quartile in governance exacerbates the negative relationship between the presence of management-focused blockholders and the readability of 10-K reports. No evidence indicates that governance will affect the positive relationship between information-focused blockholders and the readability of 10-K reports.

Insert Table 12 here

Edmans and Holderness (2017) argue that both implicit and explicit threats to exit serve as effective governance mechanisms. I expect that a higher level of “exit threat” induce firms to produce more transparent reports. Table 13 presents results which are consistent with H5. The coefficient on the interaction between *BH\_COMPETE* and *LIQUIDITY* is positive and significant (coefficient=0.079; t-stat=1.650) in Column (1), even stronger in the firms with lower *E\_INDEX* (coefficient=0.092; t-stat=1.690). When exit threats increase, managers are more likely to improve the readability of 10-K reports. Exit threats, however, have no impact on the firms with higher Entrenchment Index.

Insert Table 13 here

Table 14 presents the results to test the effects of different types of unaffiliated 13D filers on the readability of 10-K reports by using the change model. Column 1 in Panel A shows that the bottom quartile in *DIFFOUT\_FACTOR1* improves the level of the readability. *DIFFOUT\_FACTOR1* is the signed difference between *OUT\_FACTOR1<sub>t</sub>* and *OUT\_FACTOR1<sub>t-1</sub>*. The bottom quartile represents the biggest negative change. In other word, when blockholders

mention the keywords related to factor1 less, managers write more readable 10-K reports. Column 5 in Panel A indicates that the bottom quartile in the change in *DIFFOUT\_FACTOR3* reduces the level of readability, which means when blockholders mention the keywords related to factor3 less, managers write less readable reports. Panel B presents very similar results when the dependent variable is replaced by complexity-adjusted readability.

Insert Table 14 here

## Chapter 7

### Conclusions

In this paper, I examine whether and how the presence of different types of blockholders affects firms' textual disclosure quality. I classify blockholders based on the Schedule 13 they file with the SEC—13D or 13G—regarding their holdings and the keywords frequently used in Item 4 of Schedule 13 filings. I argue that managers anticipate the nature of actions 13D filers are likely to take when they file the Schedule 13 and respond differently to different blockholder intentions.

By using a manually collected blockholder-firm panel sample from 2011-2016, I find that, on average, both aggregate blockholder ownership and the total number of blockholders are negatively associated with the readability of firms' 10-K reports. By categorizing blockholders into different groups, I find that firms with greater number of unaffiliated 13D filers write *more* readable 10-K reports while firms with both greater number and greater ownership of affiliated 13D filers write *less* readable 10-K reports than firms with only passive blockholders (13G filers)<sup>31</sup>.

I interpret the above results as suggesting that managers respond strategically to the different intentions of blockholders. A finer classification of unaffiliated blockholders reveals that management-focused unaffiliated blockholders (activist blockholders who seek changes in the slate of executives or/and the board of directors) elicit less readable 10-K reports. I interpret this result as showing that the managers defensively obfuscate the 10-K reports when faced with hostile blockholders who could use specific information against the managers and current directors. In contrast, information-focused unaffiliated blockholders (value-oriented

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<sup>31</sup> This conclusion is based on the results by using propensity-score-matching sample. The results by using full sample show that firms with greater ownership of unaffiliated 13D filers write *more* readable 10-K reports.

blockholders) elicit more readable reports. The information-focused blockholders acquire what they believe to be undervalued stocks and expect that value to be unleashed when there is greater transparency. I interpret the result on unaffiliated information-focused stockholders as suggesting that the managers respond favorably to them by improving the readability of the public 10-K reports. Further tests show that, overall, “exit threat” has a positive effect on the readability of 10-Ks, especially for the firms with lower Entrenchment Index.

This study makes several contributions to the literature. Although an extensive literature examines the effects of large shareholders on firm value and corporate policies, Dou et al. (2016) is one of the few studies focusing on the impact of blockholders on numerical measures of earnings quality. I complement and expand their results by examining the impact of blockholders on textual reporting quality after controlling for numerical earnings quality. By showing that the perceived intentions of different blockholders affect the readability of the firms’ 10-K reports differently, this study provides additional insights into the effect of heterogeneous blockholders on firms’ textual disclosure quality.

Secondly, most prior studies treat blockholders as a homogenous group of investors. This study finds that different types of blockholders have different impacts on the readability of 10-K reports. While the information-focused unaffiliated 13D filers induce firms to write more readable 10-K reports, unaffiliated management-focused blockholders elicit less readable 10-K reports. The overall negative relationship between blockholders and the readability of 10-K reports masks these nuanced differences in management disclosure responses to different types of blockholders with different intentions.

Thirdly, this study adds to the readability literature by showing that the presence of different types of blockholders affects textual disclosure quality. As informed and resourceful

investors with sizable stakes, different types of blockholders have different abilities and incentives to influence textual disclosure quality through their influence on managerial behavior.



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## Appendix A

### Variable Definitions

<i>AGE</i>	The number of years since a firm's first appearance in the CRSP monthly stock returns files.	CRSP
<i>ANALYST</i>	The number of analysts issuing earnings forecasts for a firm.	I/B/E/S
<i>ARI(Automated Readability Index)</i>	$4.71 * \left( \frac{\text{Number of the characters}}{\text{Number of words}} \right) + 0.5 * \left( \frac{\text{Number of words}}{\text{Number of sentences}} \right) - 21.43$	Calculated by Python
<i>BH_COMPET</i>	The Herfindahl index of block ownership, which is defined as $(-1) * \left( \sum_{k=1}^N \left( \frac{\text{Block}_{k,i,t}}{\text{Block}_{i,t}} \right)^2 \right)$ . Where $\text{Block}_{k,i,t}$ is the number of shares held by blockholder $k$ in firm $i$ for year $t$ , $\text{Block}_{i,t}$ is the total shares held by all blockholders ( <i>TOTALOWN</i> ) of firm $i$ in year $t$ , and $N$ is the total number of blockholders ( <i>NUMALL</i> ) in firm $i$ in year $t$ .	Calculation
<i>BOG</i>	A proprietary measure of readability created by Editor software's Plain English software, StyleWriter. The formula is based on several plain English factors such as sentence length, weak verbs, overused words, complex words, and jargons.	StyleWriter
<i>BUSSEG</i>	The natural logarithm of 1 plus the number of business segments at the end of the fiscal year.	Compustat
<i>DA</i>	The absolute value of performance-adjusted discretionary accruals identified by Kothari et al. (2005) model. See calculation in details in Appendix E.	Regression model
<i>DIFFOUT_FACTOR1</i>	$(\text{OUT\_FACTOR1}_t - \text{OUT\_FACTOR1}_{t-1})$	Calculation
<i>DIFFOUT_FACTOR2</i>	$(\text{OUT\_FACTOR2}_t - \text{OUT\_FACTOR2}_{t-1})$	Calculation
<i>DIFFOUT_FACTOR3</i>	$(\text{OUT\_FACTOR3}_t - \text{OUT\_FACTOR3}_{t-1})$	Calculation
<i>DIVIDENDS</i>	Dividend yield, defined as (common dividend + preferred dividends)/(market value of common stocks + book value of preferred).	Compustat
<i>E_INDEX</i>	Following Bebchuk et al. (2008), the index is based on the sum of the presence of the following six provisions: staggered boards, limits to shareholder amendments, poison pills, golden parachutes, super-majority requirements mergers, and charter amendments.	ISS
<i>EARNINGS</i>	The operating earnings scaled by the book value of the assets.	Compustat
<i>EARNSTD</i>	The standard deviation of the operating earnings during five prior fiscal years.	Compustat
<i>FILESIZE</i>	The natural logarithm of the gross file size of the financial documents measured in bytes.	Calculated by Python
<i>FLESCH_KINCAID</i>	$0.39 * \left( \frac{\text{Number of the words}}{\text{Number of sentences}} \right) + 11.8 * \left( \frac{\text{Number of syllables}}{\text{Number of words}} \right) - 15.59$	Calculated by Python
<i>GEOSEG</i>	The natural logarithm of 1 plus the number of geographic segments at the end of the fiscal year.	Compustat
<i>GFI</i>	$(\text{Words\_per\_sentence} + \text{Percent\_of\_complex\_words}) * 0.4$	Calculated by Python
<i>GOVERNANCE</i>	$(-1) * E\_INDEX$	ISS
<i>GROUP</i>	The total ownership held by the directors/executives as a group.	Proxy statement

<i>HHI</i>	Herfindahl-Hirschman index of sales in different business segments.	Compustat
<i>HIGH_E</i>	The level of Entrenchment Index ( <i>E_INDEX</i> ) is in the third and fourth quartiles.	ISS
<i>INNUM_13D</i>	The total number of affiliated 13D filers.	SEC Edgar
<i>INSHARE_13D</i>	The total ownership held by affiliated 13D filers.	SEC Edgar
<i>INSTOWN</i>	Institutional ownership is defined as the percentage of ownership stake that is held by large financial organizations, pension funds or endowments. They are the 13F filers.	Factset
<i>INSTOWN_NOBH</i>	Non-blockholder institutional ownership is defined as the institutional ownership after subtracting the ownership which is higher than 5 percent.	Factset
<i>LENGTH</i>	The natural logarithm of the number of words in the financial documents.	Calculated by Python
<i>LEVERAGE</i>	The ratio of the book value of short and long-term debt over book value of total assets.	Compustat
<i>LIQUIDITY</i>	Indicator variable denoting firm liquidity, equals to 1 if for firm-years with annual average of daily turnover ( <i>SHTURN</i> ) above the overall sample median, 0 otherwise.	CRSP
<i>LIX</i>	$\left(\frac{\text{Number of the words}}{\text{Number of sentences}}\right) + \left(\frac{\text{Number of words over 6 letters} \times 100}{\text{Number of words}}\right)$	Calculated by Python
<i>LN(AT)</i>	The natural logarithm of the total assets.	Compustat
<i>LOW_E</i>	The level of Entrenchment Index ( <i>E_INDEX</i> ) is in the first and second quartiles.	ISS
<i>MA</i>	Indicator variable equals to 1 if firms have mergers and acquisitions over the last three years, 0 otherwise.	SDC
<i>MTB</i>	The market value of equity plus book value of liability and divided by the book value of total assets.	Compustat
<i>NM_ITEMS</i>	The natural logarithm of the number of non-missing items in Compustat.	Compustat
<i>NUM_13D</i>	The total number of 13D (active) filers.	SEC Edgar
<i>NUM_13G</i>	The total number of 13G (passive) filers.	SEC Edgar
<i>NUMALL</i>	The total number of aggregate blockholders.	Proxy statement
<i>OUT_FACTOR1</i>	The frequency of factor 1 keywords used in Item 4 of Schedule 13D filings by 13D filers.	Calculated by Python
<i>OUT_FACTOR2</i>	The frequency of factor 2 keywords used in Item 4 of Schedule 13D filings by 13D filers.	Calculated by Python
<i>OUT_FACTOR3</i>	The frequency of factor 3 keywords used in Item 4 of Schedule 13D filings by 13D filers.	Calculated by Python
<i>OUTNUM_13D</i>	The total number of unaffiliated 13D filers.	SEC Edgar
<i>OUTSHARE_13D</i>	The total ownership held by unaffiliated 13D filers.	SEC Edgar
<i>Q1_DIFFFACTOR1</i>	Indicator variable equals to 1 if the change in <i>OUT_FACTOR1</i> between year <sub>t</sub> and year <sub>t-1</sub> is in the bottom quartile, 0 otherwise.	Calculation
<i>Q1_DIFFFACTOR2</i>	Indicator variable equals to 1 if the change in <i>OUT_FACTOR2</i> between year <sub>t</sub> and year <sub>t-1</sub> is in the bottom quartile, 0 otherwise.	Calculation
<i>Q1_DIFFFACTOR3</i>	Indicator variable equals to 1 if the change in <i>OUT_FACTOR3</i> between year <sub>t</sub> and year <sub>t-1</sub> is in the bottom quartile, 0 otherwise.	Calculation
<i>Q1_GOVN</i>	Indicator variable equals to 1 if the entrenchment index ( <i>E_INDEX</i> ) is in the top quartile, 0 otherwise.	Calculation
<i>Q1_IO</i>	Indicator variable equals to 1 if the non-blockholder institutional	Calculation

	ownership ( <i>INSTOWN_NOBH</i> ) is in the bottom quartile, 0 otherwise.	
<i>Q4_GOVN</i>	Indicator variable equals to 1 if the entrenchment index ( <i>E_INDEX</i> ) is in the bottom quartile, 0 otherwise.	Calculation
<i>Q4_IO</i>	Indicator variable equals to 1 if the non-blockholder institutional ownership ( <i>INSTOWN_NOBH</i> ) is in the top quartile, 0 otherwise.	Calculation
<i>Q4_DIFFFACTOR1</i>	Indicator variable equals to 1 if the change in <i>OUT_FACTOR1</i> between year <sub>t</sub> and year <sub>t-1</sub> is in the top quartile, 0 otherwise.	Calculation
<i>Q4_DIFFFACTOR2</i>	Indicator variable equals to 1 if the change in <i>OUT_FACTOR2</i> between year <sub>t</sub> and year <sub>t-1</sub> is in the top quartile, 0 otherwise.	Calculation
<i>Q4_DIFFFACTOR3</i>	Indicator variable equals to 1 if the change in <i>OUT_FACTOR3</i> between year <sub>t</sub> and year <sub>t-1</sub> is in the top quartile, 0 otherwise.	Calculation
<i>R&amp;D</i>	R&D scaled by lagged total assets.	Compustat
<i>READ</i>	Following Bushman et al. (2004), I employ principal component analysis and take the first principal component among nine commonly used readability measures as following: Gunning Fog Index ( <i>GFI</i> ), Length ( <i>LENGTH</i> ), File size ( <i>FILESIZE</i> ), Bog index ( <i>BOG</i> ), Flesch-Kincaid Index ( <i>FLESCH_KINCAID</i> ), ARI Index ( <i>ARI</i> ), LIX Index ( <i>LIX</i> ), RIX Index ( <i>RIX</i> ), and SMOG Index ( <i>SMOG</i> ).	Principal Component Analysis
<i>READ1</i>	The residual from equation (8), which is the complexity-adjusted measure of readability of 10-K after controlling for business and reporting complexity.	Regression Model
<i>RETSTD</i>	The standard deviation of monthly stock return in the prior year.	CRSP
<i>RIX</i>	$\left( \frac{\text{Number of the words with 7 character or more}}{\text{Number of sentences}} \right)$	Calculated by Python
<i>ROA</i>	Return on assets, defined as net income divided by total assets.	Compustat
$\Delta$ <i>SALES</i>	Sales growth, defined as $(\text{Sales}_t - \text{Sales}_{t-1}) / \text{Sales}_{t-1}$ .	Compustat
<i>SEO</i>	Indicator variable equals to 1 if firms have seasoned equity offerings in the year, 0 otherwise.	SDC
<i>SHARE_13D</i>	The total ownership held by 13D (active) filers.	SEC Edgar
<i>SHARE_13G</i>	The total ownership held by 13G (passive) filers.	SEC Edgar
<i>SHTURN</i>	Daily shares turnover is calculated as the total number of shares sold on the day scaled by total shares outstanding, then multiply by 1,000.	CRSP
<i>SMOG</i>	$1.043 * \text{sqrt} \left( \frac{30 * \text{Number of the words more than two syllables}}{\text{Number of sentences}} + 3.1291 \right)$	Calculated by Python
<i>SPI</i>	The amount of special items scaled by book value of assets.	Compustat
<i>STATE</i>	Indicator variable equals to 1 if firms are incorporated in Delaware, 0 otherwise.	Compustat
<i>TOBINQ</i>	$(\text{book value of debt} + \text{market value of equity}) / (\text{book value of debt} + \text{book value of equity})$	Compustat
<i>TOTALOWN</i>	The aggregate blockholdings held by blockholders.	Proxy statement



## Appendix B

### Textual Processing Procedures of 10-K reports

In this Appendix, I summarize the procedures I used to process 10-K files and calculate readability. All procedures were written in Python.

#### Data Cleaning

As explained elsewhere in the accounting literature (Bonsall IV et al. 2017; Li 2008), SEC filings have extra markups that must be removed before any meaningful textual analysis may be done. I take the following procedures to clean text files, which are downloaded from the SEC EDGAR platform.<sup>32</sup> These procedures are similar to the ones in Bonsall IV et al., (2017) and Li (2008).

- Remove non-textual portions of the file such as XBRL and graphics.
- Remove tables with numbers. (In some cases texts marked up with tags <TABLE></TABLE> are not “real” tables but paragraphs or headings. Such texts I kept for subsequent processing.)
- Remove HTML tags.
- Remove extra blank spaces at the beginning or end of each line.
- Remove lines that have numbers but no text (e.g., a line with page number only).
- Remove non-sentence-ending dots (such as the dot in “Mr.”).
- Remove the declarative part at the beginning of a report (i.e., those texts on the first page indicating the type of form, such as 10-K, and the type of business, etc).
- Remove lines with more than 50% characters that are either numbers or non-alphabetic.
- Remove lines with only one end-of-line whitespace (this applies mostly to the encoding of non-text elements such as images and PDF files).

#### Calculation of Readability

Length is a simple count of words in a cleaned file. The file size is based on the storage of a file uses in the computer hard drive. Note that after cleaning, the file size should have a near-perfect correlation with a total number of words because all files have text only. Six readability indexes, including Gunning Fog Index, Flesch-Kincaid Index, ARI Index, LIX Index, RIX Index, SMOG Index, are based on sentence length and the complex words. I calculated the average sentence length first (without any further treatment). Then I took the following steps to account for complex words:

- Exclude accounting jargon.<sup>33</sup>
- Identify complex words (different in different readability index) based on the Carnegie Mellon University Pronouncing Dictionary.<sup>34</sup>
- If a word is not in the CMU dictionary, I used my algorithm to count syllabus and determine whether it is a complex word.

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<sup>32</sup> See link at: <https://www.sec.gov/>.

<sup>33</sup> I sincerely thank Tim Loughran and Bill McDonald for their willingness to share their list of accounting jargon.

<sup>34</sup> See link at: <http://www.speech.cs.cmu.edu/cgi-bin/cmudict>.

## Appendix C

### Textual Processing Procedures of Schedule 13D filings

In this Appendix, I summarize the procedures I used to process 13D filings. All procedures were written in Python.

1. Download 13D reports from SEC EDGAR (form type "SC 13D" and "SC 13D/A").
2. For each report, keep the first section of <DOCUMENT></DOCUMENT>. Attachments, if any, are therefore dropped.
3. Clean up reports by dropping HTML tags.
4. For each report, find the section with heading "Item 4. Purpose of Transaction."
5. The length of an Item 4 section includes numbers (i.e., a number is counted as one word).
6. Search key words:
  - shareholder value/shareholder/interest of shareholder;
  - dividend;
  - structure;
  - strategy/strategic/operation/business plan;
  - sale/sale of the issuer/business/sale of the company/sale division/sale segment;
  - governance/deficiency/affiliated control;
  - executive compensation/say on pay;
  - board;
  - request/demand action;
  - nominee/replace/elect/nominate;
  - merger/acquisition;
  - undervalue;
  - profit/performance/long-term;
  - no plan/no specific plan/no any plan;
  - change;
  - invest/investment opportunity/investment purpose;
  - resign

## Appendix D

### Excerpts from Item 4 in Schedule 13D filings

#### Management-focused blockholders:

#### Item 4. Purpose of Transaction<sup>35</sup>

We are filing this Seventeenth Amendment to report that pursuant to an Agreement with the Issuer dated April 10, 2018 (the “Standstill Agreement”), the terms of which are more fully summarized below in Item 6, Mark D. Alcott, the Group’s previously announced nominee for the Issuer’s upcoming election of directors, will be appointed to the Issuer’s Board of Directors.

On March 19, 2018, I contested the Issuer’s upcoming annual meeting and nominated for election Mr. Alcott to replace CEO, John E. Peck, as a director on the Issuer’s board. Subsequently, the board adopted and announced revised compensation policies requiring the Issuer to reach at least average annual performance relative to that of its peer group, or its executive officers will not receive salary raises, bonuses or perquisites for that year. On April 11, 2018, the Issuer filed a Form 8-K with the Securities and Exchange Commission (the “Form 8-K”), announcing the terms of a Standstill Agreement with the Group, which is attached as Exhibit 10.1 to the Form 8-K and is incorporated herein by reference.

We intend to work with the Board of Directors to maximize stockholder value.

Our purpose in acquiring shares of Common Stock of the Issuer is to profit from the appreciation in the market price of the shares of Common Stock through asserting stockholder rights. I do not believe the value of the Issuer’s assets is adequately reflected in the current market price of the Issuer’s Common Stock.

At the May 2013 annual meeting of HopFed Bancorp, Inc. (“HFBC”), we nominated a director for the Board of Directors and strongly opposed HFBC’s agreement to purchase Sumner Bank & Trust. Our nominee won by a two to one margin, and the proposed deal was subsequently terminated in August 2013.

On May 1, 2017, we sent a letter to stockholders (filed as Exhibit 13 to the fifth Amendment) detailing the personal property holdings of Mr. Peck, as well as numerous other conflicts of interest uncovered in our review of publicly available documents. In response to our letter, HFBC announced the formation of a Special Litigation Committee (“SLC”). On February 23, 2018, HFBC filed a Form 8-K announcing that the SLC had concluded its investigation but declined to recommend that the board take action.

On May 4, 2017, we filed a complaint in the Delaware Court of Chancery against HFBC, its current Board of Directors and one former board member, asking the Court to declare that HFBC’s prejudicial bylaw was invalid and that the directors breached their fiduciary duties. HFBC later amended the bylaw, thus mooting the case. I received reimbursement of our attorneys’ fees and expenses in their entirety (\$610,312). In his ruling, the Judge excoriated the conduct of HFBC’s board; the court transcript is filed as Exhibit 14 to the Fourteenth Amendment.

On February 23, 2018, we demanded that HFBC’s Board of Directors take action against HFBC’s attorneys, Edward B. Crosland, Jr. of Jones Walker LLP and George M. (“Greg”) Carter of Carter & Carter Law Firm, for legal malpractice and seek damages in excess of \$1 million. Our demand letter is attached as Exhibit 15 to the Fifteenth Amendment.

Since 2000, members or affiliates of the Group have taken an ‘activist position’ in 64 other publicly-traded companies. Currently, members or affiliates of the Group file Schedule 13Ds to disclose greater than 5% positions only in SEC-reporting companies. For simplicity, these affiliates are referred to below as the “Group”, “I”, “us”, or “our.” In each instance, our purpose has been to profit from the appreciation in the market price of the shares I held by asserting shareholder rights. In addition, I believed that the values of the companies’ assets are not adequately

<sup>35</sup> See the link at: [https://www.sec.gov/Archives/edgar/data/1041550/000114420418020163/tv490899\\_sc13da.htm](https://www.sec.gov/Archives/edgar/data/1041550/000114420418020163/tv490899_sc13da.htm).

reflected in the market prices of their shares. Our actions are described below. I have categorized the descriptions of our actions with regard to the issuers based upon certain outcomes (whether or not, directly or indirectly, such outcomes resulted from the actions of the Group). Within each category, the descriptions are listed in chronological order based upon the respective filing dates of the originally-filed Schedule 13Ds, or, in limited instances, the acquisition date of our 5% position of a non-reporting company.

**Policy-focused blockholders:**

**Item 4. Purpose of Transaction<sup>36</sup>**

Pursuant to the Merger Agreement, the Issuer is required to call a special meeting of its stockholders to seek such stockholder approval. If such stockholder approval is obtained, each share of Preferred Stock will be convertible into 1 share of Common Stock (subject to customary adjustments for accrued and unpaid dividends, if any, and changes in the Issuer's capital structure) and will become voting shares, on an as converted basis, with the Common Stock as one class. Additionally, shares of Preferred Stock will automatically convert into shares of Common Stock if, following receipt of such stockholder approval, the trading price of the Common Stock is greater than or equal to \$10.00 per share for 30 consecutive trading days. All of the terms, rights, obligations and preferences of the shares of Preferred Stock are set forth in the Certificate of Designations of Series A Conditional Convertible Preferred Stock, Par Value \$0.01 Per Share, of AMN Healthcare Services, Inc., executed and filed by the Issuer with the Secretary of State of the State of Delaware on August 31, 2010 (the "Certificate of Designations").

**Information-focused blockholders:**

**Item 4. Purpose of Transaction<sup>37</sup>**

The Reporting Person does not have any present plan or proposal which would relate to or result in any of the matters set forth in subparagraphs (a) - (j) of Item 4 of Schedule 13D except as set forth herein or such as would occur upon or in connection with completion of, or following, any of the actions discussed herein. The Reporting Person intends to review his investment in the Company on a continuing basis. Depending on various factors including, without limitation, the Company's financial position and investment strategy, the price levels of the Shares, conditions in the securities markets and general economic and industry conditions, the Reporting Person may in the future take such actions with respect to his investment in the Company as he deems appropriate, purchasing additional Shares, selling some or all of his Shares, or changing his intention with respect to any and all matters referred to in Item 4.

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<sup>36</sup> See the link at: <https://www.sec.gov/Archives/edgar/data/886982/000095012310085744/c60225sc13d.htm>.

<sup>37</sup> See the link at: [https://www.sec.gov/Archives/edgar/data/1296205/000147793214005461/zagg\\_sc13da.htm](https://www.sec.gov/Archives/edgar/data/1296205/000147793214005461/zagg_sc13da.htm).

## Appendix E

### Calculation of Discretionary Accruals (DA)

To estimate the Kothari et al. (2005) model, first estimate the modified Jones model:

$$(TA_{i,t}) = \alpha_0 + \alpha_1 \left( \frac{1}{Assets_{i,t-1}} \right) + \alpha_2 (\Delta Sales_{i,t}) + \alpha_3 (PPE_{i,t}) + V_{i,t}$$

Where:

$TA_{i,t}$  = Total accruals =  $\Delta$ Current assets (Compustat item4) -  $\Delta$ Current liabilities (item 5) -  $\Delta$ Cash (item1) +  $\Delta$ Debt in current liabilities (item34) - Depreciation and amortization expense (item 14),  $\Delta$  means the change from year t to year t-1;

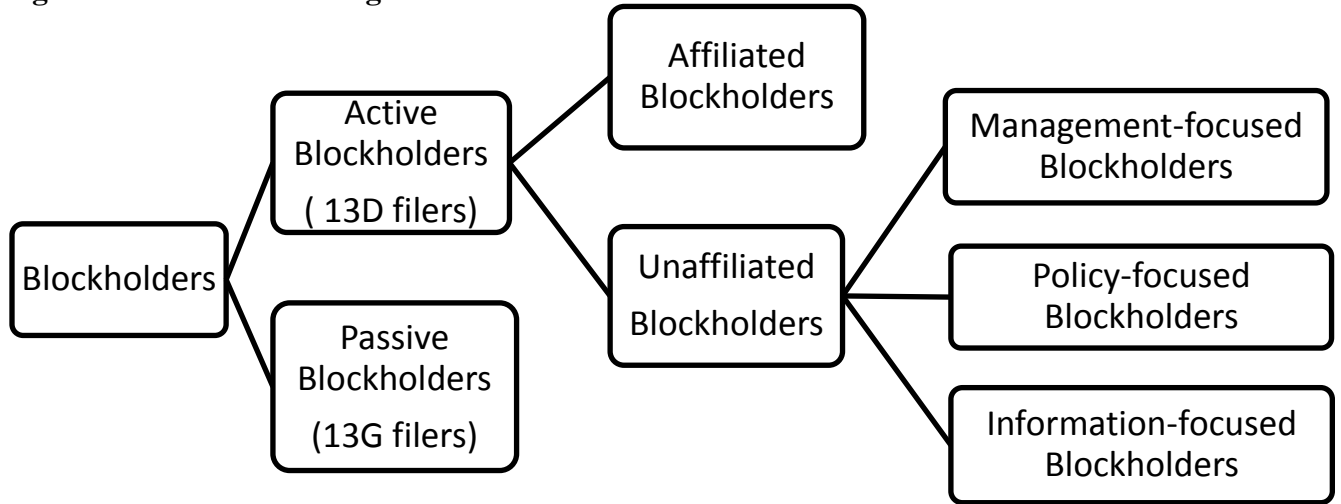
$\Delta Sales_{i,t}$  = Total revenue for firm i for year t (item 12);

$PPE_t$  = Property, plant, and equipment for firm i for year t (item7);

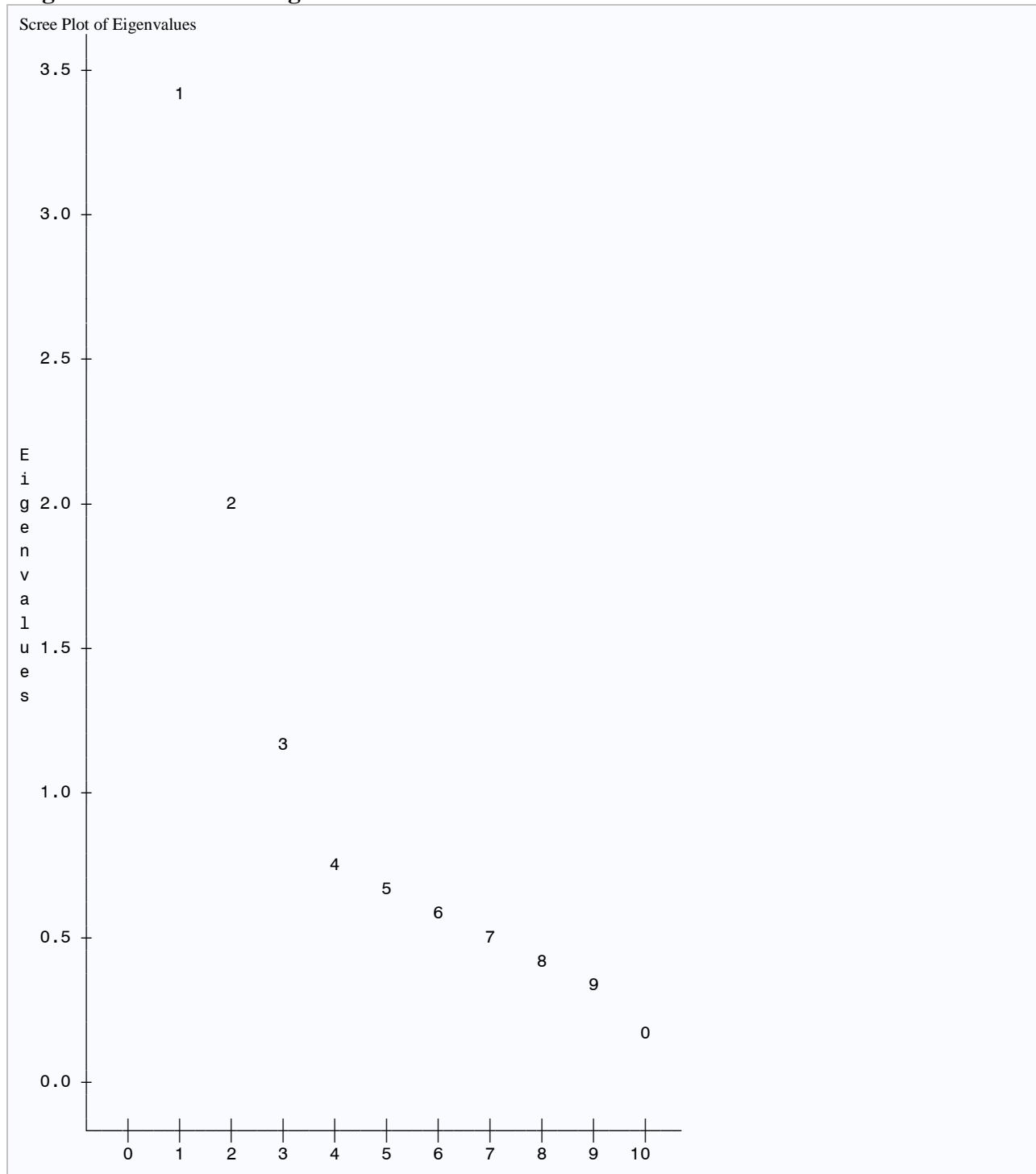
I then match each firm observation with the same Fama and French (1997) 48 industry groups and return on assets. Abnormal discretionary accruals (DA) are the absolute value of the  $V_{i,t}$ .

## List of Figures

Figure 1 Blockholder Categorization



**Figure 2 Scree Plot of Eigenvalues for Three Factors**



## List of Tables

**Table 1 Sample Selection Process**

	Firm-years	Firms
The initial sample in the ISS from 2011 to 2016	8995	1922
Less: multiple-class firms	536	123
Less: without required data to get the proxy statements from SEC Edgar	1522	619
The hand-collected blockholder-firm full sample	6937	1180
Less: without required data to get 10-K readability from SEC Edgar	576	38
Less: without required data to compute control variables	612	36
Less: Family firms	222	59
Final sample	5527	1047



## Table 2 Descriptive Statistics

The sample selection process is presented in Table 1. All variables are defined in Appendix A.

### Panel A Blockholder Characteristics

Variable	N	Std Dev	Mean	25th	Median	75th
<i>TOTALOWN</i>	5527	15.391	31.187	20.190	29.200	39.910
<i>NUMALL</i>	5527	1.576	3.844	3.000	4.000	5.000
<i>GROUP</i>	5527	7.499	5.479	1.300	2.900	6.000
<i>SHARE_13D</i>	5527	6.583	2.293	0	0	0
<i>NUM_13D</i>	5527	0.442	0.178	0	0	0
<i>SHARE_13G</i>	5527	13.620	28.894	19.200	27.420	37.300
<i>NUM_13G</i>	5527	1.528	3.666	3.000	4.000	5.000
<i>SHARE_13D</i>	861	9.743	14.654	8.000	11.270	18.000
<i>NUM_13D</i>	861	0.395	1.141	1	1	1
<i>OUTSHARE_13D</i>	861	9.875	11.170	5.600	9.100	15.500
<i>OUTNUM_13D</i>	861	0.589	0.913	1	1	1
<i>INSHARE_13D</i>	861	8.533	3.484	0	0	0
<i>INNUM_13D</i>	861	0.452	0.228	0	0	0

### Panel B Firm Characteristics

Variable	N	Std Dev	Mean	25th	Median	75 <sup>th</sup>
<i>DA</i>	5527	0.083	0.057	0.001	0.030	0.074
<i>LN(AT)</i>	5527	1.673	8.221	7.015	8.151	9.290
<i>MTB</i>	5527	4.206	3.271	1.448	2.257	3.707
<i>SPI</i>	5527	0.022	-0.009	-0.010	-0.002	0.000
<i>RETSTD</i>	5527	0.008	0.020	0.014	0.018	0.024
<i>EARNSTD</i>	5527	0.035	0.031	0.009	0.020	0.038
<i>BUSSEG</i>	5527	2.157	2.572	1.000	2.000	4.000
<i>GEOSEG</i>	5527	2.812	2.933	1.000	2.000	4.000
<i>NM_ITEMS</i>	5527	0.222	5.864	5.846	5.900	5.938
<i>AGE</i>	5527	19.586	29.912	16.515	23.762	41.312
<i>ROA</i>	5527	0.067	0.047	0.013	0.043	0.079
<i>MA</i>	5527	0.499	0.461	-	-	-
<i>SEO</i>	5527	0.235	0.059	-	-	-
<i>STATE</i>	5527	0.490	0.602	-	-	-
<i>LEVERAGE</i>	5527	0.184	0.236	0.076	0.219	0.356

<i>ANALYST</i>	5527	9.334	13.465	6.000	11.000	19.000
<i>INSTOWN</i>	5527	0.270	0.633	0.561	0.704	0.804
<i>INSTOWN_NOBH</i>	5527	0.239	0.439	0.345	0.473	0.581

**Panel C: Readability**

Variable	N	Std Dev	Mean	25th	Median	75th
<i>GFI</i>	5527	1.193	15.884	15.100	15.730	16.460
<i>LENGTH</i>	5527	0.440	10.831	10.549	10.797	11.077
<i>FILESIZE</i>	5527	0.489	12.820	12.512	12.777	13.089
<i>BOG</i>	5527	12.379	85.774	83.000	87.000	91.000
<i>FLESCH_KINCAID</i>	5527	1.097	16.149	15.455	16.033	16.683
<i>RIX</i>	5527	1.001	8.976	8.332	8.874	9.493
<i>LIX</i>	5527	2.890	61.069	59.182	60.828	62.652
<i>ARI</i>	5527	1.430	22.532	21.645	22.347	23.180
<i>SMOG</i>	5527	0.801	17.591	17.064	17.531	18.042

### Table 3 Correlations

All variables are defined in Appendix A.

#### Panel A. Principal Component Analysis among *GFI, LENGTH, FILESIZE, BOG, FLESCH-KINCAID, LIX, RIX, ARI, and SMOG*

Principal Component Output

Eigenvalue	Proportion of variation explained
5.656	0.628

#### Correlations Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)	1.000								
(2)	0.380*** <.0001	1.000							
(3)	0.598*** <.0001	0.789*** <.0001	1.000						
(4)	0.381*** <.0001	0.372*** <.0001	0.350*** <.0001	1.000					
(5)	0.469*** <.0001	0.378*** <.0001	0.320*** <.0001	0.364*** <.0001	1.000				
(6)	0.395*** <.0001	0.283*** <.0001	0.249*** <.0001	0.338*** <.0001	0.953*** <.0001	1.000			
(7)	0.416*** <.0001	0.321*** <.0001	0.269*** <.0001	0.326*** <.0001	0.976*** <.0001	0.987*** <.0001	1.000		
(8)	0.429*** <.0001	0.358*** <.0001	0.381*** <.0001	0.306*** <.0001	0.978*** <.0001	0.956*** <.0001	0.981*** <.0001	1.000	
(9)	0.473*** <.0001	0.380*** <.0001	0.327*** <.0001	0.392*** <.0001	0.967*** <.0001	0.943*** <.0001	0.959*** <.0001	0.949*** <.0001	1.000

Note: (1) *GFI*; (2) *LENGTH*; (3) *FILESIZE*; (4) *BOG*; (5) *FLESCH\_KINCAID*; (6) *LIX*; (7) *RIX*; (8) *ARI*; (9) *SMOG*;  
 $Read = 0.250 * GFI + 0.222 * LENGTH + 0.210 * FILESIZE + 0.203 * BOG + 0.406 * FLESCH\_KINCAID + 0.401 * LIX + 0.393 * RIX + 0.404 * ARI + 0.400 * SMOG$

#### Panel B. Pearson Correlations Table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	1.000									
(2)	-0.020* (0.149)	1.000								
(3)	-0.004 (0.753)	0.834*** <.0001	1.000							
(4)	0.004 (0.787)	0.389*** <.0001	0.056*** (0.000)	1.000						
(5)	0.026* (0.053)	0.310*** <.0001	0.115*** <.0001	0.333*** <.0001	1.000					
(6)	0.029** (0.030)	0.272*** <.0001	0.179*** <.0001	0.223*** <.0001	0.850*** <.0001	1.000				
(7)	-0.031** (0.023)	0.168*** <.0001	0.016 0.240	0.256*** <.0001	-0.037*** (0.004)	-0.037*** (0.006)	1.000			
(8)	-0.042*** (0.002)	0.145*** <.0001	0.050*** (0.000)	0.210*** <.0001	-0.041*** (0.003)	-0.043*** (0.001)	0.825*** <.0001	1.000		
(9)	0.011 (0.418)	0.923*** <.0001	0.833*** <.0001	0.258*** <.0001	-0.068*** <.0001	-0.044*** (0.001)	0.186*** <.0001	0.164*** <.0001	1.000	
(10)	-0.002 (0.858)	0.775*** <.0001	0.967*** <.0001	-0.012 (0.406)	-0.105*** <.0001	-0.065*** <.0001	0.020 (0.131)	0.057*** <.0001	0.858*** <.0001	1.000

Note: (1) *READ*; (2) *TOTALOWN*; (3) *NUMALL*; (4) *GROUP*; (5) *OUTSHARE\_13D*; (6) *OUTNUM\_13D*; (7) *INSHARE\_13G*; (8) *INNUM\_13G*; (9) *SHARE\_13G*; (10) *NUM\_13G*

**Table 4 The association between aggregate blockholders the readability of 10-K reports**

Column (1), following Li (2008), is the readability expectation model, which regresses the readability on complexity factors, e.g., business complexity as well as financial complexity. Column (2) tests the association between the aggregate ownership of blockholders and the readability of 10-Ks. Column (3) tests the association between the total number of blockholders and the readability of 10-Ks. Column (4) tests the association between the ownership of directors/executives as a group and the readability of 10-Ks. Column (5) tests the association between the aggregate ownership of blockholders and the complexity-adjusted readability of 10-Ks. Column (6) tests the association between the total number of blockholders and the complexity-adjusted readability of 10-Ks. Column (7) tests the association between the ownership of directors/executives as a group and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ</i>	(5) <i>READI</i>	(6) <i>READI</i>	(7) <i>READI</i>
<i>TOTALOWN</i>		<b>-0.008**</b> (-1.995)			<b>-0.008**</b> (-2.015)		
<i>NUMALL</i>			<b>-0.080**</b> (-2.297)			<b>-0.078**</b> (-2.250)	
<i>GROUP</i>				0.001 (0.141)			0.001 (0.139)
<i>DA</i>		-0.478 (-1.076)	-0.509 (-1.137)	-0.530 (-1.188)	-0.484 (-1.097)	-0.516 (-1.160)	-0.536 (-1.211)
<i>LN_AT</i>		-0.396*** (-7.554)	-0.396*** (-7.790)	-0.363*** (-6.989)	-0.406*** (-7.771)	-0.404*** (-7.993)	-0.372*** (-7.200)
<i>MTB</i>		-0.021* (-1.799)	-0.022* (-1.793)	-0.022* (-1.786)	-0.023* (-1.959)	-0.023* (-1.952)	-0.023* (-1.945)
<i>SPI</i>		-0.158 (-0.079)	-0.162 (-0.080)	-0.681 (-0.338)	-0.117 (-0.059)	-0.136 (-0.068)	-0.640 (-0.322)
<i>RETSTD</i>		-3.530*** (-4.243)	-3.583*** (-4.299)	-3.625*** (-4.326)	-3.435*** (-4.127)	-3.489*** (-4.185)	-3.530*** (-4.213)
<i>EARNSTD</i>		-1.317 (-0.681)	-1.230 (-0.638)	-1.170 (-0.599)	-1.219 (-0.639)	-1.131 (-0.594)	-1.072 (-0.556)
<i>BUSSEG</i>	-0.085*** (0.015)						
<i>GEOSEG</i>	0.011 (0.011)						
<i>NM_ITEMS</i>	-0.617** (0.278)						
<i>AGE</i>		0.008** (2.200)	0.008** (2.227)	0.008** (2.225)	0.008** (2.174)	0.008** (2.200)	0.008** (2.198)
<i>ROA</i>		2.805*** (3.035)	2.791*** (3.037)	3.120*** (3.365)	2.770*** (3.036)	2.766*** (3.046)	3.085*** (3.372)
<i>MA</i>		-0.054 (-0.541)	-0.048 (-0.488)	-0.045 (-0.451)	-0.046 (-0.465)	-0.040 (-0.411)	-0.037 (-0.374)
<i>SEO</i>		-0.266 (-1.302)	-0.280 (-1.375)	-0.267 (-1.292)	-0.264 (-1.309)	-0.278 (-1.381)	-0.265 (-1.299)
<i>STATE</i>		-0.252* (-1.822)	-0.253* (-1.838)	-0.271** (-1.974)	-0.251* (-1.826)	-0.252* (-1.845)	-0.269** (-1.978)
Constant	3.687** (1.613)	6.480*** (4.689)	6.617*** (4.798)	6.040*** (4.414)	6.504*** (4.813)	6.625*** (4.915)	6.064*** (4.532)

Obs.	5527	5527	5527	5527	5527	5527	5527
Adj R-squared	0.007	0.169	0.170	0.168	0.169	0.169	0.167
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy*		Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy							

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**Table 5 Full Sample to test the relationship between the presence of different types of blockholders and the readability of 10-K reports**

**Panel A: The relationship between the presence of different types of blockholders and the readability of 10-K reports**

Column (1) tests the relationship between the ownership of 13G filers and the readability of 10-Ks. Column (2) tests the relationship between the number of 13G filers and the readability of 10-Ks. Column (3) tests the relationship between the ownership of 13D filers and the readability of 10-Ks. Column (4) tests the relationship between the number of 13D filers and the readability of 10-Ks. Column (5) tests the relationship between the ownership of 13G filers and the complexity-adjusted readability of 10-Ks. Column (6) tests the relationship between the number of 13G filers and the complexity-adjusted readability of 10-Ks. Column (7) tests the relationship between the ownership of 13D filers and the complexity-adjusted readability of 10-Ks. Column (8) tests the relationship between the number of 13D filers and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ</i>	(5) <i>READ1</i>	(6) <i>READ1</i>	(7) <i>READ1</i>	(8) <i>READ1</i>
<i>SHARE_13G</i>	<b>-0.007*</b> (-1.938)				<b>-0.007**</b> (-1.965)			
<i>NUM_13G</i>		<b>-0.056*</b> (-1.866)				<b>-0.055*</b> (-1.843)		
<i>SHARE_13D</i>			0.007 (0.847)				0.007 (0.813)	
<i>NUM_13D</i>				0.075 (0.610)				0.075 (0.621)
<i>DA</i>	-0.666 (-1.578)	-0.691 (-1.631)	-0.698* (-1.653)	-0.702* (-1.661)	-0.665 (-1.582)	-0.690 (-1.637)	-0.697* (-1.659)	-0.701* (-1.667)
<i>LN_AT</i>	-0.344*** (-7.912)	-0.338*** (-7.988)	-0.319*** (-7.581)	-0.319*** (-7.539)	-0.349*** (-8.051)	-0.343*** (-8.120)	-0.325*** (-7.720)	-0.324*** (-7.674)
<i>MTB</i>	-0.013 (-1.293)	-0.013 (-1.290)	-0.013 (-1.281)	-0.013 (-1.284)	-0.014 (-1.397)	-0.014 (-1.393)	-0.014 (-1.386)	-0.014 (-1.388)
<i>SPI</i>	-1.179 (-0.650)	-1.276 (-0.702)	-1.579 (-0.865)	-1.583 (-0.867)	-1.117 (-0.622)	-1.222 (-0.679)	-1.519 (-0.840)	-1.524 (-0.843)
<i>RETSTD</i>	-2.793*** (-3.849)	-2.821*** (-3.874)	-2.881*** (-3.943)	-2.865*** (-3.918)	-2.628*** (-3.574)	-2.658*** (-3.603)	-2.716*** (-3.670)	-2.702*** (-3.647)
<i>EARNSTD</i>	-1.875 (-1.026)	-1.801 (-0.985)	-1.789 (-0.973)	-1.814 (-0.987)	-1.664 (-0.921)	-1.589 (-0.879)	-1.577 (-0.868)	-1.603 (-0.882)
<i>AGE</i>	0.007** (2.070)	0.007** (2.104)	0.007** (2.098)	0.007** (2.081)	0.007** (2.064)	0.007** (2.100)	0.007** (2.095)	0.007** (2.074)
<i>ROA</i>	3.364*** (4.089)	3.403*** (4.147)	3.624*** (4.380)	3.626*** (4.386)	3.373*** (4.139)	3.417*** (4.200)	3.632*** (4.430)	3.637*** (4.438)
<i>MA</i>	-0.078 (-0.913)	-0.074 (-0.864)	-0.069 (-0.807)	-0.070 (-0.822)	-0.068 (-0.807)	-0.064 (-0.757)	-0.059 (-0.701)	-0.061 (-0.715)
<i>SEO</i>	0.009 (0.057)	-0.001 (-0.009)	-0.002 (-0.015)	-0.002 (-0.010)	0.006 (0.035)	-0.005 (-0.032)	-0.006 (-0.038)	-0.005 (-0.033)
<i>STATE</i>	-0.318*** (-2.664)	-0.320*** (-2.679)	-0.330*** (-2.771)	-0.331*** (-2.772)	-0.317*** (-2.662)	-0.318*** (-2.679)	-0.329*** (-2.771)	-0.329*** (-2.772)
Constant	6.447*** (8.427)	6.453*** (8.478)	6.064*** (8.251)	6.053*** (8.124)	6.558*** (8.473)	6.556*** (8.515)	6.177*** (8.303)	6.161*** (8.175)

Obs.	5527	5527	5527	5527	5527	5527	5527	5527
Adj R-squared	0.166	0.166	0.165	0.165	0.166	0.166	0.165	0.165
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy*	yes	yes	Yes	Yes	yes	yes	yes	yes
Year Dummy								

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## Panel B The relationship between the presence of different types of 13D filers and the readability of 10-K reports

Column (1) tests the relationship between the ownership of unaffiliated 13D filers and the readability of 10-Ks. Column (2) tests the relationship between the number of unaffiliated 13D filers and the readability of 10-Ks. Column (3) tests the relationship between the ownership of affiliated 13D filers and the readability of 10-Ks. Column (4) tests the relationship between the number of affiliated 13D filers and the readability of 10-Ks. Column (5) tests the relationship between the ownership of unaffiliated 13D filers and the complexity-adjusted readability of 10-Ks. Column (6) tests the relationship between the number of unaffiliated 13D filers and the complexity-adjusted readability of 10-Ks. Column (7) tests the relationship between the ownership of affiliated 13D filers and the complexity-adjusted readability of 10-Ks. Column (8) tests the relationship between the number of affiliated 13D filers and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ</i>	(5) <i>READI</i>	(6) <i>READI</i>	(7) <i>READI</i>	(8) <i>READI</i>
<i>OUTSHARE_13D</i>	<b>0.017*</b> (1.759)				<b>0.019*</b> (1.899)			
<i>OUTNUM_13D</i>		0.206 (1.401)				0.244 (1.640)		
<i>INSHARE_13D</i>			<b>-0.028**</b> (-2.180)				<b>-0.026*</b> (-1.725)	
<i>INNUM_13D</i>				<b>-0.564**</b> (-2.043)				<b>-0.480*</b> (-1.821)
<i>DA</i>	-0.516 (-1.152)	-0.523 (-1.169)	-0.485 (-1.092)	-0.523 (-1.172)	-0.523 (-1.176)	-0.530 (-1.192)	-0.489 (-1.107)	-0.529 (-1.193)
<i>LN_AT</i>	-0.361*** (-7.317)	-0.359*** (-7.240)	-0.365*** (-7.444)	-0.365*** (-7.433)	-0.370*** (-7.535)	-0.368*** (-7.457)	-0.375*** (-7.661)	-0.374*** (-7.650)
<i>MTB</i>	-0.021* (-1.762)	-0.021* (-1.748)	-0.021* (-1.761)	-0.021* (-1.773)	-0.023* (-1.923)	-0.023* (-1.910)	-0.023* (-1.919)	-0.023* (-1.932)
<i>SPI</i>	-0.730 (-0.362)	-0.729 (-0.361)	-0.652 (-0.324)	-0.660 (-0.329)	-0.687 (-0.344)	-0.686 (-0.344)	-0.610 (-0.307)	-0.619 (-0.313)
<i>RETSTD</i>	-3.689*** (-4.389)	-3.662*** (-4.362)	-3.536*** (-4.222)	-3.563*** (-4.249)	-3.590*** (-4.273)	-3.566*** (-4.249)	-3.436*** (-4.102)	-3.465*** (-4.132)
<i>EARNSTD</i>	-1.177 (-0.603)	-1.211 (-0.620)	-1.201 (-0.616)	-1.171 (-0.602)	-1.080 (-0.560)	-1.112 (-0.577)	-1.105 (-0.574)	-1.073 (-0.559)
<i>AGE</i>	0.008** (2.172)	0.008** (2.128)	0.008** (2.244)	0.008** (2.235)	0.008** (2.146)	0.008** (2.102)	0.008** (2.220)	0.008** (2.210)
<i>ROA</i>	3.200*** (3.448)	3.218*** (3.473)	3.108*** (3.365)	3.095*** (3.351)	3.162*** (3.451)	3.181*** (3.477)	3.073*** (3.370)	3.059*** (3.356)
<i>MA</i>	-0.041 (-0.414)	-0.041 (-0.413)	-0.043 (-0.434)	-0.047 (-0.470)	-0.033 (-0.339)	-0.033 (-0.337)	-0.035 (-0.356)	-0.039 (-0.395)
<i>SEO</i>	-0.267 (-1.301)	-0.269 (-1.313)	-0.251 (-1.215)	-0.242 (-1.167)	-0.265 (-1.307)	-0.267 (-1.320)	-0.248 (-1.217)	-0.238 (-1.165)
<i>STATE</i>	-0.273** (-1.986)	-0.274** (-1.994)	-0.270** (-1.975)	-0.271** (-1.978)	-0.271** (-1.990)	-0.273** (-1.998)	-0.269** (-1.980)	-0.270** (-1.983)
Constant	5.947*** (4.427)	5.875*** (4.349)	6.020*** (4.477)	6.038*** (4.486)	5.977*** (4.549)	5.905*** (4.470)	6.041*** (4.593)	6.060*** (4.603)
Obs.	5527	5527	5527	5527	5527	5527	5527	5527
Adj R-squared	0.168	0.168	0.169	0.169	0.159	0.159	0.159	0.159



Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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**Table 6 The relationship between the presence of different types of blockholders (lagged) and the readability of 10-K reports**

**Panel A: The relationship between the presence of different types of blockholders (lagged) and the readability of 10-K reports**

Column (1) tests the relationship between the lagged ownership of 13G filers and the readability of 10-Ks. Column (2) tests the relationship between the lagged number of 13G filers and the readability of 10-Ks. Column (3) tests the relationship between the lagged ownership of 13D filers and the readability of 10-Ks. Column (4) tests the relationship between the lagged number of 13D filers and the readability of 10-Ks. Column (5) tests the relationship between the lagged ownership of 13G filers and the complexity-adjusted readability of 10-Ks. Column (6) tests the relationship between the lagged number of 13G filers and the complexity-adjusted readability of 10-Ks. Column (7) tests the relationship between the lagged ownership of 13D filers and the complexity-adjusted readability of 10-Ks. Column (8) tests the relationship between the lagged number of 13D filers and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ</i>	(5) <i>READ1</i>	(6) <i>READ1</i>	(7) <i>READ1</i>	(8) <i>READ1</i>
<i>LAG_SHARE_13G</i>	<b>-0.008**</b> (-2.085)				<b>-0.008**</b> (-2.103)			
<i>LAG_NUM_13G</i>		<b>-0.061*</b> (-1.859)				<b>-0.060*</b> (-1.843)		
<i>LAG_SHARE_13D</i>			0.012 (1.273)				0.011 (1.244)	
<i>LAG_NUM_13D</i>				0.119 (0.901)				0.118 (0.904)
<i>DA</i>	-0.649 (-1.336)	-0.680 (-1.402)	-0.685 (-1.416)	-0.699 (-1.444)	-0.634 (-1.313)	-0.666 (-1.380)	-0.671 (-1.394)	-0.684 (-1.422)
<i>LN_AT</i>	-0.343*** (-7.422)	-0.336*** (-7.426)	-0.312*** (-6.961)	-0.311*** (-6.926)	-0.350*** (-7.589)	-0.341*** (-7.586)	-0.318*** (-7.127)	-0.318*** (-7.090)
<i>MTB</i>	-0.014 (-1.168)	-0.013 (-1.158)	-0.013 (-1.123)	-0.013 (-1.121)	-0.015 (-1.296)	-0.015 (-1.284)	-0.014 (-1.250)	-0.014 (-1.248)
<i>SPI</i>	-0.727 (-0.359)	-0.854 (-0.420)	-1.152 (-0.563)	-1.136 (-0.555)	-0.671 (-0.335)	-0.801 (-0.399)	-1.093 (-0.541)	-1.078 (-0.534)
<i>RETSTD</i>	-2.694*** (-3.356)	-2.743*** (-3.401)	-2.800*** (-3.463)	-2.772*** (-3.423)	-2.548*** (-3.145)	-2.597*** (-3.192)	-2.653*** (-3.252)	-2.626*** (-3.215)
<i>EARNSTD</i>	-1.537 (-0.774)	-1.457 (-0.733)	-1.461 (-0.730)	-1.499 (-0.749)	-1.318 (-0.673)	-1.238 (-0.631)	-1.242 (-0.629)	-1.280 (-0.648)
<i>AGE</i>	0.008** (2.118)	0.008** (2.156)	0.008** (2.138)	0.008** (2.116)	0.007** (2.111)	0.007** (2.151)	0.007** (2.134)	0.007** (2.109)
<i>ROA</i>	3.316*** (3.655)	3.361*** (3.716)	3.607*** (3.967)	3.604*** (3.964)	3.316*** (3.693)	3.364*** (3.756)	3.604*** (4.005)	3.603*** (4.003)
<i>MA</i>	-0.084 (-0.904)	-0.080 (-0.864)	-0.075 (-0.804)	-0.078 (-0.832)	-0.076 (-0.824)	-0.072 (-0.783)	-0.067 (-0.723)	-0.069 (-0.751)
<i>SEO</i>	0.037 (0.208)	0.025 (0.137)	0.015 (0.081)	0.017 (0.097)	0.036 (0.204)	0.023 (0.132)	0.014 (0.077)	0.016 (0.092)
<i>STATE</i>	-0.330*** (-2.603)	-0.333*** (-2.631)	-0.346*** (-2.726)	-0.346*** (-2.724)	-0.327*** (-2.589)	-0.330*** (-2.618)	-0.342*** (-2.713)	-0.342*** (-2.712)
Constant	2.656***	2.659***	2.214***	2.205***	2.795***	2.793***	2.358***	2.347***

	(3.839)	(3.825)	(3.169)	(3.098)	(4.007)	(3.984)	(3.344)	(3.269)
Obs.	4437	4437	4437	4437	4437	4437	4437	4437
Adj R-squared	0.160	0.160	0.159	0.159	0.159	0.159	0.158	0.158
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy								

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## Panel B The relationship between the presence of different types of 13D filers (lagged) and the readability of 10-K reports

Column (1) tests the relationship between the lagged ownership of unaffiliated 13D filers and the readability of 10-Ks. Column (2) tests the relationship between the lagged number of unaffiliated 13D filers and the readability of 10-Ks. Column (3) tests the relationship between the lagged ownership of affiliated 13D filers and the readability of 10-Ks. Column (4) tests the relationship between the lagged number of affiliated 13D filers and the readability of 10-Ks. Column (5) tests the relationship between the lagged ownership of unaffiliated 13D filers and the complexity-adjusted readability of 10-Ks. Column (6) tests the relationship between the lagged number of unaffiliated 13D filers and the complexity-adjusted readability of 10-Ks. Column (7) tests the relationship between the lagged ownership of affiliated 13D filers and the complexity-adjusted readability of 10-Ks. Column (8) tests the relationship between the lagged number of affiliated 13D filers and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ</i>	(5) <i>READ1</i>	(6) <i>READ1</i>	(7) <i>READ1</i>	(8) <i>READ1</i>
<i>LAG_OUTSHARE_13D</i>	<b>0.019*</b> (1.934)				<b>0.019*</b> (1.899)			
<i>LAG_OUTNUM_13D</i>		<b>0.249*</b> (1.647)				0.244 (1.640)		
<i>LAG_INSHARE_13D</i>			-0.024 (-1.517)				<b>-0.026*</b> (-1.725)	
<i>LAG_INNUM_13D</i>				-0.449 (-1.633)				<b>-0.480*</b> (-1.821)
<i>DA</i>	-0.506 (-0.990)	-0.524 (-1.030)	-0.503 (-0.995)	-0.534 (-1.048)	-0.499 (-0.983)	-0.517 (-1.022)	-0.493 (-0.981)	-0.526 (-1.041)
<i>LN_AT</i>	-0.351*** (-6.756)	-0.348*** (-6.665)	-0.357*** (-6.909)	-0.357*** (-6.899)	-0.360*** (-6.961)	-0.358*** (-6.870)	-0.366*** (-7.114)	-0.365*** (-7.102)
<i>MTB</i>	-0.018 (-1.296)	-0.017 (-1.274)	-0.018 (-1.318)	-0.018 (-1.324)	-0.020 (-1.469)	-0.019 (-1.448)	-0.020 (-1.489)	-0.020 (-1.496)
<i>SPI</i>	-0.350 (-0.153)	-0.309 (-0.135)	-0.281 (-0.124)	-0.294 (-0.129)	-0.285 (-0.127)	-0.246 (-0.109)	-0.219 (-0.098)	-0.234 (-0.105)
<i>RETSTD</i>	-3.468*** (-3.647)	-3.427*** (-3.603)	-3.308*** (-3.473)	-3.321*** (-3.478)	-3.383*** (-3.565)	-3.344*** (-3.522)	-3.222*** (-3.388)	-3.235*** (-3.394)
<i>EARNSTD</i>	-0.558 (-0.259)	-0.610 (-0.283)	-0.531 (-0.247)	-0.532 (-0.248)	-0.411 (-0.194)	-0.460 (-0.217)	-0.384 (-0.181)	-0.386 (-0.182)
<i>AGE</i>	0.009** (2.179)	0.009** (2.125)	0.009** (2.258)	0.009** (2.245)	0.008** (2.163)	0.008** (2.109)	0.009** (2.246)	0.009** (2.232)
<i>ROA</i>	3.147*** (3.090)	3.157*** (3.099)	3.034*** (2.986)	3.036*** (2.988)	3.101*** (3.089)	3.110*** (3.098)	2.990*** (2.985)	2.991*** (2.987)
<i>MA</i>	-0.021 (-0.190)	-0.022 (-0.203)	-0.022 (-0.198)	-0.025 (-0.226)	-0.015 (-0.138)	-0.016 (-0.150)	-0.015 (-0.142)	-0.019 (-0.173)
<i>SEO</i>	-0.288 (-1.218)	-0.293 (-1.244)	-0.277 (-1.163)	-0.272 (-1.142)	-0.282 (-1.210)	-0.287 (-1.235)	-0.271 (-1.153)	-0.266 (-1.129)
<i>STATE</i>	-0.280* (-1.904)	-0.280* (-1.906)	-0.279* (-1.901)	-0.278* (-1.894)	-0.276* (-1.895)	-0.276* (-1.898)	-0.275* (-1.893)	-0.274* (-1.885)
Constant	2.749* (1.946)	2.685* (1.895)	2.861** (2.024)	2.878** (2.035)	2.804** (2.024)	2.743** (1.975)	2.906** (2.099)	2.926** (2.111)
Obs.	4437	4437	4437	4437	4437	4437	4437	4437
Adj R-squared	0.161	0.161	0.160	0.160	0.159	0.159	0.159	0.159

Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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**Table 7 Propensity-score-matched sample to test whether different types of 13D filers affect the readability of 10-K reports**

**Panel A: Propensity-score-matched sample to test whether unaffiliated 13D filers affect the readability of 10-K reports**

Column (1) tests whether the ownership of unaffiliated 13D filers affects the readability of 10-Ks. Column (2) tests whether the number of unaffiliated 13D filers affects the readability of 10-Ks. Column (3) tests whether the interaction between the ownership of unaffiliated 13D filers and the number of unaffiliated 13D filers affects the readability of 10-Ks. Column (4) tests whether the ownership of unaffiliated 13D filers affects the complexity-adjusted readability of 10-Ks. Column (5) tests whether the number of unaffiliated 13D filers affects the complexity-adjusted readability of 10-Ks. Column (6) tests whether the interaction between the ownership of unaffiliated 13D filers and the number of unaffiliated 13D filers affects the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ1</i>	(5) <i>READ1</i>	(6) <i>READ1</i>
<i>OUTSHARE_13D</i>	0.013 (1.151)		0.018 (0.622)	0.012 (1.117)		0.015 (0.517)
<i>OUTNUM_13D</i>		<b>0.312*</b> <b>(1.779)</b>	<b>0.576*</b> <b>(1.741)</b>		<b>0.312*</b> <b>(1.780)</b>	<b>0.584*</b> <b>(1.773)</b>
<i>OUTSHARE_13D*OUTNUM_13D</i>			-0.029 (-1.385)			-0.027 (-1.310)
<i>DA</i>	-1.628 (-1.543)	-1.571 (-1.489)	-1.539 (-1.458)	-1.648 (-1.569)	-1.591 (-1.514)	-1.563 (-1.488)
<i>LN_AT</i>	-0.282*** (-3.084)	-0.271*** (-2.932)	-0.273*** (-2.933)	-0.300*** (-3.260)	-0.288*** (-3.105)	-0.290*** (-3.097)
<i>MTB</i>	-0.000 (-0.006)	0.002 (0.088)	-0.001 (-0.032)	-0.002 (-0.091)	0.000 (0.004)	-0.002 (-0.110)
<i>SPI</i>	0.406 (0.110)	0.337 (0.091)	0.591 (0.159)	0.389 (0.106)	0.328 (0.090)	0.577 (0.157)
<i>RETSTD</i>	-2.781* (-1.706)	-2.736* (-1.694)	-2.529 (-1.597)	-2.769* (-1.716)	-2.730* (-1.708)	-2.513 (-1.603)
<i>EARNSTD</i>	-0.728 (-0.205)	-1.051 (-0.297)	-1.415 (-0.400)	-0.769 (-0.219)	-1.093 (-0.312)	-1.463 (-0.419)
<i>AGE</i>	0.000 (0.056)	-0.001 (-0.129)	-0.001 (-0.082)	0.000 (0.056)	-0.001 (-0.146)	-0.001 (-0.111)
<i>ROA</i>	3.477** (2.232)	3.606** (2.342)	3.567** (2.335)	3.323** (2.142)	3.455** (2.253)	3.419** (2.249)
<i>MA</i>	-0.121 (-0.590)	-0.122 (-0.597)	-0.119 (-0.585)	-0.127 (-0.623)	-0.127 (-0.627)	-0.125 (-0.617)
<i>SEO</i>	0.291 (0.570)	0.259 (0.518)	0.264 (0.529)	0.291 (0.576)	0.258 (0.522)	0.261 (0.530)
<i>STATE</i>	-0.308 (-1.124)	-0.306 (-1.119)	-0.301 (-1.102)	-0.325 (-1.195)	-0.323 (-1.191)	-0.319 (-1.175)
Constant	6.008*** (5.649)	5.649*** (5.270)	5.334*** (4.713)	6.291*** (5.928)	5.923*** (5.545)	5.614*** (4.990)
Obs.	1368	1368	1368	1368	1368	1368
Adj R-squared	0.114	0.118	0.119	0.116	0.119	0.120
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes

Industry Dummy*	Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
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## Panel B Propensity-score-matched sample to test whether affiliated 13D filers affect the readability of 10-K reports

Column (1) tests whether the ownership of affiliated 13D filers affects the readability of 10-Ks. Column (2) tests whether the number of affiliated 13D filers affects the readability of 10-Ks. Column (3) tests whether the interaction between the ownership of affiliated 13D filers and the number of affiliated 13D filers affects the readability of 10-Ks. Column (4) tests whether the ownership of affiliated 13D filers affects the complexity-adjusted readability of 10-Ks. Column (5) tests whether the number of affiliated 13D filers affects the complexity-adjusted readability of 10-Ks. Column (6) tests whether the interaction between the ownership of affiliated 13D filers and the number of affiliated 13D filers affects the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>READ</i>	<i>READ</i>	<i>READ</i>	<i>READI</i>	<i>READI</i>	<i>READI</i>
<i>INSHARE_13D</i>	<b>-0.036**</b> (-1.996)		0.019 (0.203)	<b>-0.034*</b> (-1.924)		0.018 (0.196)
<i>INNUM_13D</i>		<b>-0.737*</b> (-1.766)	-0.521 (-0.746)		<b>-0.689*</b> (-1.700)	-0.464 (-0.699)
<i>INSHARE_13D*INNUM_13D</i>			-0.033 (-0.355)			-0.033 (-0.357)
<i>DA</i>	-2.183 (-1.072)	-2.531 (-1.206)	-2.378 (-1.083)	-2.505 (-1.235)	-2.831 (-1.357)	-2.673 (-1.222)
<i>LN_AT</i>	-0.300*** (-2.608)	-0.294*** (-2.626)	-0.303** (-2.549)	-0.312*** (-2.686)	-0.307*** (-2.699)	-0.316*** (-2.620)
<i>MTB</i>	-0.002 (-0.042)	-0.010 (-0.267)	-0.007 (-0.178)	-0.001 (-0.038)	-0.010 (-0.262)	-0.006 (-0.163)
<i>SPI</i>	4.285 (0.445)	5.160 (0.522)	5.325 (0.522)	3.001 (0.348)	3.795 (0.428)	3.955 (0.433)
<i>RETSTD</i>	-0.207 (-0.075)	-0.115 (-0.040)	-0.074 (-0.026)	-0.043 (-0.016)	0.024 (0.009)	0.065 (0.024)
<i>EARNSTD</i>	-4.324 (-0.927)	-4.163 (-0.925)	-4.300 (-0.901)	-4.023 (-0.875)	-3.873 (-0.873)	-4.004 (-0.850)
<i>AGE</i>	0.000 (0.022)	0.002 (0.139)	0.001 (0.113)	0.001 (0.065)	0.002 (0.179)	0.002 (0.152)
<i>ROA</i>	3.290 (1.076)	3.165 (1.022)	3.051 (0.962)	3.369 (1.149)	3.259 (1.098)	3.144 (1.033)
<i>MA</i>	-0.719* (-1.740)	-0.691* (-1.686)	-0.690* (-1.662)	-0.697* (-1.705)	-0.672* (-1.661)	-0.672 (-1.637)
<i>SEO</i>	-0.755 (-1.611)	-0.651 (-1.371)	-0.682 (-1.463)	-0.767* (-1.713)	-0.671 (-1.471)	-0.702 (-1.558)
<i>STATE</i>	0.195 (0.457)	0.239 (0.582)	0.232 (0.541)	0.176 (0.421)	0.218 (0.541)	0.209 (0.497)
Constant	1.313 (0.648)	1.109 (0.557)	1.210 (0.582)	0.629 (0.309)	0.446 (0.223)	0.552 (0.265)
Obs.	376	376	376	376	376	376
Adj R-squared	0.313	0.319	0.310	0.331	0.335	0.326
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes



**Table 8 The effect of different types of blockholders by using textual analysis on readability  
Panel A: Factor analysis among 17 keywords abstracted from Item4 in 13D filings**

Factor analysis is conducted among 17 keywords abstracted from Item 4 in 13D filings and a stepwise approach is used. To improve interpretability, the factor solution is rotated using the promax oblique method. The resulting factor loadings and the variance explained by each of the factors are shown below.

Rotated Factor Pattern (Standardized Regression Coefficients)			
	Factor1	Factor2	Factor3
<i>SHAREHOLDER_VALUE</i>	<b>0.91283</b>	-0.05034	0.06064
<i>DIVIDEND</i>	0.01785	<b>0.78275</b>	-0.12220
<i>STRUCTURE</i>	0.04524	<b>0.74524</b>	0.24529
<i>ACTION</i>	<b>0.81192</b>	0.03023	-0.02601
<i>TARGET_BOARD</i>	<b>0.90507</b>	0.00687	-0.01091
<i>UNDERVALUE</i>	-0.01182	-0.12097	<b>0.83893</b>
<i>PROFIT</i>	<b>0.68508</b>	-0.03020	0.06505
<i>CHANGE</i>	-0.04668	<b>0.89378</b>	-0.03788
<i>INVEST</i>	-0.00676	0.15074	<b>0.68048</b>
<i>RESIGN</i>	<b>0.72987</b>	0.05097	-0.10567

Normalized Oblique Transformation Matrix			
	1	2	3
1	0.93314	0.21686	0.07283
2	-0.39281	0.91186	0.25057
3	-0.04473	-0.40876	0.98208

Inter-Factor Correlations			
	Factor1	Factor2	Factor3
Factor1	1.00000	0.14570	0.09422
Factor2	0.14570	1.00000	0.16270
Factor3	0.09422	0.16270	1.00000

Variance Explained by Each Factor Ignoring Other Factors		
Factor1	Factor2	Factor3
3.3734922	2.1308838	1.3579658

**Panel B The relationship between the presence of different types of unaffiliated 13D filers and the readability of 10-K reports—Full sample**

Column (1) tests the relationship between the presence of management-focused blockholders and the readability of 10-Ks. Column (2) tests the relationship between the presence of policy-focused blockholders and the readability of 10-Ks. Column (3) tests the relationship between the presence of information-focused blockholders and the readability of 10-Ks. Column (4) tests the relationship between the presence of management-focused blockholders and the complexity-adjusted readability of 10-Ks. Column (5) tests the relationship between the presence of policy-focused blockholders and the complexity-adjusted readability of 10-Ks. Column (6) tests the relationship between the presence of information-focused blockholders and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>READ</i>	<i>READ</i>	<i>READ</i>	<i>READ1</i>	<i>READ1</i>	<i>READ1</i>
<i>OUT_FACTOR1</i>	<b>-0.103***</b> (-3.516)			<b>-0.101***</b> (-3.507)		
<i>OUT_FACTOR2</i>		-0.048 (-0.923)			-0.050 (-0.987)	
<i>OUT_FACTOR3</i>			<b>0.606***</b> (2.968)			<b>0.564***</b> (2.629)
<i>DA</i>	-0.544 (-1.229)	-0.519 (-1.167)	-0.481 (-1.079)	-0.551 (-1.251)	-0.526 (-1.189)	-0.491 (-1.108)
<i>LN_AT</i>	-0.368*** (-7.505)	-0.366*** (-7.453)	-0.364*** (-7.452)	-0.377*** (-7.720)	-0.375*** (-7.671)	-0.374*** (-7.661)
<i>MTB</i>	-0.022* (-1.822)	-0.022* (-1.795)	-0.021* (-1.773)	-0.024** (-1.982)	-0.023* (-1.955)	-0.023* (-1.933)
<i>SPI</i>	-0.829 (-0.418)	-0.762 (-0.382)	-0.576 (-0.286)	-0.785 (-0.401)	-0.724 (-0.368)	-0.542 (-0.273)
<i>RETSTD</i>	-3.637*** (-4.339)	-3.552*** (-4.235)	-3.622*** (-4.350)	-3.541*** (-4.226)	-3.455*** (-4.121)	-3.527*** (-4.233)
<i>EARNSTD</i>	-1.060 (-0.548)	-1.118 (-0.575)	-1.434 (-0.740)	-0.965 (-0.505)	-1.018 (-0.530)	-1.319 (-0.689)
<i>AGE</i>	0.008** (2.263)	0.008** (2.249)	0.009** (2.337)	0.008** (2.236)	0.008** (2.224)	0.008** (2.303)
<i>ROA</i>	3.088*** (3.354)	3.136*** (3.392)	3.076*** (3.329)	3.054*** (3.360)	3.103*** (3.399)	3.045*** (3.337)
<i>MA</i>	-0.048 (-0.488)	-0.041 (-0.415)	-0.051 (-0.515)	-0.040 (-0.411)	-0.033 (-0.337)	-0.043 (-0.434)
<i>SEO</i>	-0.260 (-1.259)	-0.254 (-1.228)	-0.261 (-1.273)	-0.258 (-1.267)	-0.252 (-1.233)	-0.259 (-1.281)
<i>STATE</i>	-0.273** (-2.003)	-0.274** (-2.007)	-0.276** (-2.006)	-0.272** (-2.007)	-0.273** (-2.012)	-0.274** (-2.008)
Constant	6.083*** (4.512)	6.137*** (4.544)	6.081*** (4.529)	6.107*** (4.632)	6.164*** (4.668)	6.103*** (4.648)
Obs.	5527	5527	5527	5527	5527	5527
Adj R-squared	0.171	0.168	0.172	0.170	0.168	0.171
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy*	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy						

**Table 9 Different types of unaffiliated 13D filers and the readability of 10-K reports—Additional Tests**

**Panel A: The relationship between the presence of different types of unaffiliated 13D filers and the readability of 10-K reports—Lagged variables**

Column (1) tests the relationship between lagged management-focused blockholders and the readability of 10-Ks. Column (2) tests the relationship between lagged policy-focused blockholders and the readability of 10-Ks. Column (3) tests the relationship between lagged information-focused blockholders and the readability of 10-Ks. Column (4) tests the relationship between lagged management-focused blockholders and the complexity-adjusted readability of 10-Ks. Column (5) tests the relationship between lagged policy-focused blockholders and the complexity-adjusted readability of 10-Ks. Column (6) tests the relationship between lagged information-focused blockholders and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ1</i>	(5) <i>READ1</i>	(6) <i>READ1</i>
<i>LAG_OUT_FACTOR1</i>	<b>-0.095***</b> (-2.772)			<b>-0.094***</b> (-2.793)		
<i>LAG_OUT_FACTOR2</i>		-0.017 (-0.313)			-0.019 (-0.379)	
<i>LAG_OUT_FACTOR3</i>			<b>0.597***</b> (2.845)			<b>0.553**</b> (2.563)
<i>DA</i>	-0.543 (-1.071)	-0.530 (-1.041)	-0.520 (-1.022)	-0.535 (-1.062)	-0.523 (-1.033)	-0.512 (-1.015)
<i>LN_AT</i>	-0.358*** (-6.934)	-0.357*** (-6.896)	-0.357*** (-6.938)	-0.367*** (-7.137)	-0.365*** (-7.101)	-0.366*** (-7.134)
<i>MTB</i>	-0.019 (-1.384)	-0.018 (-1.328)	-0.019 (-1.377)	-0.021 (-1.556)	-0.020 (-1.501)	-0.021 (-1.544)
<i>SPI</i>	-0.485 (-0.217)	-0.311 (-0.138)	-0.368 (-0.162)	-0.421 (-0.191)	-0.256 (-0.115)	-0.299 (-0.134)
<i>RETSTD</i>	-3.264*** (-3.439)	-3.340*** (-3.499)	-3.371*** (-3.567)	-3.185*** (-3.362)	-3.256*** (-3.418)	-3.290*** (-3.486)
<i>EARNSTD</i>	-0.461 (-0.217)	-0.509 (-0.238)	-0.733 (-0.343)	-0.316 (-0.151)	-0.359 (-0.170)	-0.572 (-0.272)
<i>AGE</i>	0.009** (2.284)	0.009** (2.233)	0.009** (2.336)	0.009** (2.267)	0.009** (2.218)	0.009** (2.311)
<i>ROA</i>	3.139*** (3.089)	3.067*** (3.019)	3.055*** (3.021)	3.095*** (3.091)	3.026*** (3.023)	3.013*** (3.022)
<i>MA</i>	-0.025 (-0.233)	-0.023 (-0.212)	-0.035 (-0.322)	-0.019 (-0.179)	-0.017 (-0.158)	-0.028 (-0.262)
<i>SEO</i>	-0.254 (-1.060)	-0.279 (-1.167)	-0.283 (-1.198)	-0.249 (-1.053)	-0.273 (-1.156)	-0.278 (-1.190)
<i>STATE</i>	-0.279* (-1.914)	-0.279* (-1.909)	-0.280* (-1.904)	-0.276* (-1.905)	-0.276* (-1.901)	-0.276* (-1.895)
Constant	2.876** (2.034)	2.913** (2.049)	2.902** (2.056)	2.925** (2.110)	2.966** (2.129)	2.949** (2.132)
Obs.	4437	4437	4437	4437	4437	4437
Adj R-squared	0.162	0.160	0.164	0.161	0.158	0.162
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes

Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
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**Panel B Different types of unaffiliated 13D filers and the readability of 10-K reports—  
Propensity-score-matching method**

Column (1) tests whether management-focused blockholders affect the readability of 10-Ks. Column (2) tests whether policy-focused blockholders affect the readability of 10-Ks. Column (3) tests whether information-focused blockholders affect the readability of 10-Ks. Column (4) tests whether management-focused blockholders affect the complexity-adjusted readability of 10-Ks. Column (5) tests whether policy-focused blockholders affect the complexity-adjusted readability of 10-Ks. Column (6) tests whether information-focused blockholders affect the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>READ</i>	<i>READ</i>	<i>READ</i>	<i>READI</i>	<i>READI</i>	<i>READI</i>
<i>OUT_FACTOR1</i>	<b>-0.170***</b> (-3.778)			<b>-0.165***</b> (-3.592)		
<i>OUT_FACTOR2</i>		-0.104 (-1.099)			-0.103 (-1.116)	
<i>OUT_FACTOR3</i>			<b>0.708*</b> (1.987)			<b>0.659*</b> (1.839)
<i>DA</i>	-0.056 (-0.013)	-0.839 (-0.343)	2.542 (0.501)	-0.622 (-0.141)	-0.999 (-0.412)	2.657 (0.528)
<i>LN_AT</i>	-0.247 (-0.880)	-0.192 (-1.142)	-0.080 (-0.240)	-0.256 (-0.894)	-0.216 (-1.284)	-0.085 (-0.258)
<i>MTB</i>	-0.121 (-1.253)	-0.016 (-0.351)	0.052 (1.225)	-0.126 (-1.251)	-0.014 (-0.315)	0.048 (1.121)
<i>SPI</i>	-10.882 (-0.738)	5.172 (0.604)	29.360** (2.367)	-10.704 (-0.725)	4.919 (0.576)	29.008** (2.353)
<i>RETSTD</i>	-6.618 (-1.018)	0.317 (0.074)	-4.413 (-1.358)	-6.739 (-1.032)	0.157 (0.037)	-3.891 (-1.230)
<i>EARNSTD</i>	-13.704 (-0.975)	-1.977 (-0.243)	-13.827 (-1.207)	-13.376 (-0.950)	-1.937 (-0.240)	-13.971 (-1.239)
<i>AGE</i>	0.009 (0.360)	-0.002 (-0.128)	-0.018 (-0.981)	0.010 (0.400)	-0.001 (-0.076)	-0.019 (-1.026)
<i>ROA</i>	0.424 (0.067)	-0.993 (-0.238)	-2.710 (-0.779)	0.271 (0.043)	-1.026 (-0.247)	-2.568 (-0.763)
<i>MA</i>	-0.450 (-0.704)	-0.177 (-0.374)	-0.624 (-1.294)	-0.501 (-0.775)	-0.174 (-0.371)	-0.628 (-1.288)
<i>SEO</i>	1.661 (0.974)	-0.418 (-0.494)	-0.042 (-0.069)	1.725 (1.030)	-0.463 (-0.549)	-0.091 (-0.149)
<i>STATE</i>	-0.619 (-0.562)	0.329 (0.598)	2.337*** (2.887)	-0.621 (-0.556)	0.361 (0.662)	2.292*** (2.841)
Constant	6.833* (1.921)	2.633 (0.991)	3.841 (1.254)	6.703* (1.867)	2.876 (1.079)	3.881 (1.286)
Obs.	256	452	132	256	452	132
Adj R-squared	0.158	0.123	0.461	0.139	0.115	0.448
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes

**Table 10 The linkage between manipulating numerical earnings and obfuscating textual disclosure**

Column (1) tests how the level of discretionary accruals affects the relationship between the presence of management-focused blockholders and the readability of 10-Ks. Column (2) tests how the level of discretionary accruals affects the relationship between the presence of policy-focused blockholders and the readability of 10-Ks. Column (3) tests how the level of discretionary accruals affects the relationship between the presence of information-focused blockholders and the readability of 10-Ks. Column (4) tests how the level of discretionary accruals affects the relationship between the presence of management-focused blockholders and the complexity-adjusted readability of 10-Ks. Column (5) tests how the level of discretionary accruals affects the relationship between the presence of policy-focused blockholders and the complexity-adjusted readability of 10-Ks. Column (6) tests how the level of discretionary accruals affects the relationship between the presence of information-focused blockholders and the complexity-adjusted readability of 10-Ks. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ</i>	(3) <i>READ</i>	(4) <i>READ1</i>	(5) <i>READ1</i>	(6) <i>READ1</i>
<i>OUT_FACTOR1</i>	-0.022 (-0.735)			-0.021 (-0.742)		
<i>OUT_FACTOR2</i>		0.004 (0.074)			0.001 (0.016)	
<i>OUT_FACTOR3</i>			<b>0.632**</b> <b>(2.239)</b>			<b>0.571*</b> <b>(1.960)</b>
<i>OUT_FACTOR1*DA</i>	<b>-0.961***</b> <b>(-3.970)</b>			<b>-0.941***</b> <b>(-3.932)</b>		
<i>OUT_FACTOR2*DA</i>		<b>-0.483*</b> <b>(-1.837)</b>			<b>-0.466*</b> <b>(-1.836)</b>	
<i>OUT_FACTOR3*DA</i>			-0.415 (-0.164)			-0.120 (-0.047)
<i>DA</i>	-0.439 (-1.015)	-0.378 (-0.860)	-0.477 (-1.064)	-0.447 (-1.041)	-0.389 (-0.889)	-0.490 (-1.100)
<i>LN_AT</i>	-0.369*** (-7.527)	-0.366*** (-7.456)	-0.364*** (-7.452)	-0.378*** (-7.742)	-0.375*** (-7.672)	-0.374*** (-7.661)
<i>MTB</i>	-0.022* (-1.826)	-0.022* (-1.796)	-0.021* (-1.771)	-0.024** (-1.985)	-0.023* (-1.956)	-0.023* (-1.932)
<i>SPI</i>	-0.875 (-0.442)	-0.747 (-0.374)	-0.577 (-0.287)	-0.830 (-0.424)	-0.710 (-0.360)	-0.542 (-0.273)
<i>RETSTD</i>	-3.628*** (-4.330)	-3.529*** (-4.205)	-3.621*** (-4.350)	-3.533*** (-4.217)	-3.433*** (-4.091)	-3.526*** (-4.234)
<i>EARNSTD</i>	-1.005 (-0.523)	-1.076 (-0.552)	-1.432 (-0.739)	-0.911 (-0.480)	-0.977 (-0.508)	-1.318 (-0.689)
<i>AGE</i>	0.009** (2.296)	0.008** (2.260)	0.009** (2.337)	0.008** (2.270)	0.008** (2.235)	0.008** (2.303)
<i>ROA</i>	3.091*** (3.372)	3.143*** (3.402)	3.079*** (3.332)	3.058*** (3.379)	3.109*** (3.409)	3.046*** (3.337)
<i>MA</i>	-0.046 (-0.467)	-0.039 (-0.398)	-0.051 (-0.515)	-0.038 (-0.390)	-0.031 (-0.319)	-0.043 (-0.434)
<i>SEO</i>	-0.262 (-1.270)	-0.254 (-1.235)	-0.261 (-1.272)	-0.260 (-1.278)	-0.252 (-1.239)	-0.259 (-1.281)

<i>STATE</i>	-0.282**	-0.282**	-0.276**	-0.280**	-0.281**	-0.274**
	(-2.064)	(-2.062)	(-2.007)	(-2.066)	(-2.065)	(-2.007)
Constant	6.064***	6.057***	6.079***	6.088***	6.086***	6.103***
	(4.504)	(4.501)	(4.528)	(4.624)	(4.624)	(4.648)
Obs.	5527	5527	5527	5527	5527	5527
Adj R-squared	0.172	0.169	0.172	0.171	0.168	0.171
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	yes	yes	yes	yes	yes	yes

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Note: F-statistic of the sum of the coefficient on *OUT\_FACTOR1* and the coefficient on *OUT\_FACTOR1\*DA* is 8.31 in Column (1). F-statistic of the sum of the coefficient on *OUT\_FACTOR2* and the coefficient on *OUT\_FACTOR2\*DA* is 5.29 in Column (2). F-statistic of the sum of the coefficient on *OUT\_FACTOR1* and the coefficient on *OUT\_FACTOR1\*DA* is 8.08 in Column (4). F-statistic of the sum of the coefficient on *OUT\_FACTOR2* and the coefficient on *OUT\_FACTOR2\*DA* is 5.06 in Column (5).

**Table 11 The effects of the non-blockholder intuitional ownership on the relationship between the presence of different types of blockholders and readability of 10-K reports**  
**Panel A: The effects of the non-blockholder institutional ownership on the relationship between the management-focused blockholders and the readability of 10-K reports**

Column (1) tests the relationship between management-focused blockholders the readability of 10-Ks when non-blockholder institutional ownership is in the bottom quartile. Column (2) tests the relationship between management-focused blockholders the complexity-adjusted readability of 10-Ks when non-blockholder institutional ownership is in the bottom quartile. Column (3) tests the relationship between management-focused blockholders the readability of 10-Ks when non-blockholder institutional ownership is in the top quartile. Column (4) tests the relationship between management-focused blockholders the complexity-adjusted readability of 10-Ks when non-blockholder institutional ownership is in the top quartile. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)
	<i>READ</i>	<i>READI</i>	<i>READ</i>	<i>READI</i>
<i>OUT_FACTORI</i>	<b>-0.101***</b> (-3.121)	<b>-0.080***</b> (-2.665)	<b>-0.114***</b> (-4.035)	<b>-0.112***</b> (-4.058)
<i>Q1_IO</i>	-0.163 (-1.281)	-0.008 (-0.053)		
<i>OUT_FACTORI * Q1_IO</i>	-0.001 (-0.019)	-0.058 (-1.011)		
<i>Q4_IO</i>			-0.136 (-1.260)	-0.121 (-1.124)
<i>OUT_FACTORI * Q4_IO</i>			<b>0.153*</b> (1.944)	<b>0.158**</b> (1.994)
<i>DA</i>	-0.528 (-1.193)	-0.551 (-1.248)	-0.523 (-1.185)	-0.532 (-1.212)
<i>LN_AT</i>	<b>-0.381***</b> (-7.637)	<b>-0.377***</b> (-7.719)	<b>-0.358***</b> (-7.192)	<b>-0.368***</b> (-7.421)
<i>MTB</i>	-0.022* (-1.817)	-0.024** (-1.977)	-0.022* (-1.819)	-0.024** (-1.979)
<i>SPI</i>	-0.646 (-0.325)	-0.796 (-0.407)	-0.866 (-0.436)	-0.811 (-0.414)
<i>RETSTD</i>	<b>-3.577***</b> (-4.259)	<b>-3.549***</b> (-4.220)	<b>-3.679***</b> (-4.374)	<b>-3.579***</b> (-4.257)
<i>EARNSTD</i>	-1.119 (-0.577)	-0.969 (-0.506)	-0.989 (-0.512)	-0.902 (-0.473)
<i>AGE</i>	0.009** (2.358)	0.008** (2.232)	0.008** (2.130)	0.008** (2.113)
<i>ROA</i>	2.921*** (3.125)	3.051*** (3.347)	3.145*** (3.375)	3.102*** (3.372)
<i>MA</i>	-0.055 (-0.558)	-0.041 (-0.422)	-0.045 (-0.459)	-0.038 (-0.389)
<i>SEO</i>	-0.273 (-1.317)	-0.260 (-1.274)	-0.265 (-1.285)	-0.265 (-1.298)
<i>STATE</i>	-0.277** (-2.023)	-0.273** (-2.004)	-0.265* (-1.947)	-0.265* (-1.954)
Constant	6.372*** (4.589)	6.119*** (4.533)	6.140*** (4.565)	6.158*** (4.682)
Obs.	5527	5527	5527	5527



Adj R-squared	0.171	0.170	0.171	0.170
Industry Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes

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**Panel B The effects of the non-blockholder institutional ownership on the relationship between the information-focused blockholders and the readability of 10-K reports**

Column (1) tests the relationship between information-focused blockholders the readability of 10-Ks when non-blockholder institutional ownership is in the bottom quartile. Column (2) tests the relationship between information-focused blockholders the complexity-adjusted readability of 10-Ks when non-blockholder institutional ownership is in the bottom quartile. Column (3) tests the relationship between information-focused blockholders the readability of 10-Ks when non-blockholder institutional ownership is in the top quartile. Column (4) tests the relationship between information-focused blockholders the complexity-adjusted readability of 10-Ks when non-blockholder institutional ownership is in the top quartile. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ1</i>	(3) <i>READ</i>	(4) <i>READ1</i>
<i>OUT_FACTOR3</i>	<b>0.602***</b> (2.866)	<b>0.560**</b> (2.546)	<b>0.541**</b> (2.550)	<b>0.497**</b> (2.193)
<i>Q1_IO</i>	-0.165 (-1.294)	-0.168 (-1.322)		
<i>OUT_FACTOR3* Q1_IO</i>	-0.035 (-0.120)	-0.040 (-0.134)		
<i>Q4_IO</i>			-0.119 (-1.096)	-0.104 (-0.965)
<i>OUT_FACTOR3* Q4_IO</i>			0.297 (0.642)	0.305 (0.663)
<i>DA</i>	-0.466 (-1.043)	-0.475 (-1.071)	-0.463 (-1.042)	-0.475 (-1.076)
<i>LN_AT</i>	-0.378*** (-7.594)	-0.388*** (-7.803)	-0.356*** (-7.169)	-0.367*** (-7.394)
<i>MTB</i>	-0.021* (-1.767)	-0.023* (-1.925)	-0.021* (-1.765)	-0.023* (-1.925)
<i>SPI</i>	-0.396 (-0.196)	-0.358 (-0.180)	-0.631 (-0.313)	-0.588 (-0.295)
<i>RETSTD</i>	-3.561*** (-4.269)	-3.465*** (-4.152)	-3.641*** (-4.369)	-3.541*** (-4.247)
<i>EARNSTD</i>	-1.489 (-0.765)	-1.374 (-0.715)	-1.414 (-0.733)	-1.307 (-0.686)
<i>AGE</i>	0.009** (2.430)	0.009** (2.403)	0.008** (2.236)	0.008** (2.213)
<i>ROA</i>	2.909*** (3.099)	2.875*** (3.102)	3.162*** (3.385)	3.122*** (3.385)
<i>MA</i>	-0.058 (-0.583)	-0.050 (-0.505)	-0.045 (-0.457)	-0.037 (-0.382)
<i>SEO</i>	-0.274 (-1.333)	-0.273 (-1.342)	-0.261 (-1.271)	-0.260 (-1.283)
<i>STATE</i>	-0.279** (-2.026)	-0.277** (-2.029)	-0.269* (-1.957)	-0.268** (-1.963)
Constant	6.371*** (4.604)	6.399*** (4.728)	6.123*** (4.572)	6.141*** (4.688)
Obs.	5527	5527	5527	5527
Adj R-squared	0.172	0.171	0.172	0.171
Industry Dummy	Yes	Yes	Yes	Yes

Year Dummy	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes

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**Table 12 The effects of governance on the relationship between the presence of different types of blockholders and readability of 10-K reports**

**Panel A: The effects of governance on the relationship between the presence of management-focused blockholders and the readability of 10-K reports**

Column (1) tests the relationship between management-focused blockholders the readability of 10-Ks when governance is in the bottom quartile. Column (2) tests the relationship between management-focused blockholders the complexity-adjusted readability of 10-Ks when governance is in the bottom quartile. Column (3) tests the relationship between management-focused blockholders the readability of 10-Ks when governance is in the top quartile. Column (4) tests the relationship between management-focused blockholders the complexity-adjusted readability of 10-Ks when governance is in the top quartile. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)
	<i>READ</i>	<i>READI</i>	<i>READ</i>	<i>READI</i>
<i>OUT_FACTORI</i>	<b>-0.088***</b> (-2.775)	<b>-0.086***</b> (-2.766)	<b>-0.119***</b> (-3.943)	<b>-0.118***</b> (-4.043)
<i>Q1_GOVN</i>	-0.107 (-0.598)	-0.099 (-0.552)		
<i>OUT_FACTORI* Q1_GOVN</i>	<b>-0.236*</b> (-1.802)	<b>-0.231*</b> (-1.773)		
<i>Q4_GOVN</i>			0.018 (0.158)	0.019 (0.170)
<i>OUT_FACTORI* Q4_GOVN</i>			0.085 (1.519)	0.091 (1.620)
<i>DA</i>	-0.490 (-1.132)	-0.498 (-1.157)	-0.530 (-1.200)	-0.535 (-1.220)
<i>LN_AT</i>	<b>-0.371***</b> (-7.554)	<b>-0.380***</b> (-7.769)	<b>-0.366***</b> (-7.329)	<b>-0.375***</b> (-7.540)
<i>MTB</i>	-0.022* (-1.805)	-0.023** (-1.964)	-0.022* (-1.795)	-0.023* (-1.951)
<i>SPI</i>	-0.743 (-0.376)	-0.701 (-0.359)	-0.887 (-0.447)	-0.847 (-0.432)
<i>RETSTD</i>	<b>-3.616***</b> (-4.299)	<b>-3.524***</b> (-4.188)	<b>-3.614***</b> (-4.321)	<b>-3.518***</b> (-4.207)
<i>EARNSTD</i>	-0.916 (-0.480)	-0.825 (-0.438)	-1.009 (-0.521)	-0.910 (-0.476)
<i>AGE</i>	0.009** (2.296)	0.008** (2.269)	0.008** (2.271)	0.008** (2.245)
<i>ROA</i>	<b>3.066***</b> (3.357)	<b>3.033***</b> (3.363)	<b>3.107***</b> (3.379)	<b>3.075***</b> (3.386)
<i>MA</i>	-0.044 (-0.448)	-0.036 (-0.371)	-0.043 (-0.432)	-0.035 (-0.351)
<i>SEO</i>	-0.259 (-1.254)	-0.258 (-1.263)	-0.258 (-1.249)	-0.256 (-1.256)
<i>STATE</i>	-0.271** (-1.992)	-0.270** (-1.997)	-0.270** (-1.977)	-0.269** (-1.977)
Constant	6.190*** (4.514)	6.204*** (4.626)	6.061*** (4.501)	6.083*** (4.619)
Obs.	5527	5527	5527	5527
Adj R-squared	0.172	0.171	0.171	0.170
Industry Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes

Industry Dummy\* Year Dummy                      Yes                      Yes                      Yes                      Yes

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**Panel B The effects of governance on the relationship between the presence of information-focused blockholders and the readability of 10-K reports**

Column (1) tests the relationship between information-focused blockholders the readability of 10-Ks when governance is in the bottom quartile. Column (2) tests the relationship between information-focused blockholders the complexity-adjusted readability of 10-Ks when governance is in the bottom quartile. Column (3) tests the relationship between information-focused blockholders the readability of 10-Ks when governance is in the top quartile. Column (4) tests the relationship between information-focused blockholders the complexity-adjusted readability of 10-Ks when governance is in the top quartile. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1) <i>READ</i>	(2) <i>READ1</i>	(3) <i>READ</i>	(4) <i>READ1</i>
<i>OUT_FACTOR3</i>	<b>0.617***</b> ( <b>2.965</b> )	<b>0.577***</b> ( <b>2.661</b> )	<b>0.684***</b> ( <b>3.123</b> )	<b>0.654***</b> ( <b>3.064</b> )
<i>Q1_GOVN</i>	-0.130 (-0.710)	-0.121 (-0.663)		
<i>OUT_FACTOR3* Q1_GOVN</i>	-0.185 (-0.627)	-0.210 (-0.703)		
<i>Q4_GOVN</i>			0.048 (0.420)	0.050 (0.446)
<i>OUT_FACTOR3* Q4_GOVN</i>			-0.193 (-0.516)	-0.226 (-0.586)
<i>DA</i>	-0.470 (-1.059)	-0.481 (-1.090)	-0.469 (-1.054)	-0.478 (-1.082)
<i>LN_AT</i>	-0.367*** (-7.495)	-0.376*** (-7.704)	-0.363*** (-7.268)	-0.372*** (-7.478)
<i>MTB</i>	-0.021* (-1.764)	-0.023* (-1.924)	-0.021* (-1.763)	-0.023* (-1.922)
<i>SPI</i>	-0.562 (-0.280)	-0.529 (-0.267)	-0.566 (-0.282)	-0.527 (-0.266)
<i>RETSTD</i>	-3.565*** (-4.267)	-3.472*** (-4.152)	-3.604*** (-4.339)	-3.509*** (-4.223)
<i>EARNSTD</i>	-1.407 (-0.728)	-1.295 (-0.678)	-1.429 (-0.737)	-1.315 (-0.687)
<i>AGE</i>	0.009** (2.348)	0.008** (2.315)	0.009** (2.360)	0.009** (2.332)
<i>ROA</i>	3.077*** (3.341)	3.046*** (3.349)	3.096*** (3.354)	3.065*** (3.363)
<i>MA</i>	-0.051 (-0.510)	-0.042 (-0.429)	-0.051 (-0.516)	-0.043 (-0.437)
<i>SEO</i>	-0.257 (-1.251)	-0.256 (-1.261)	-0.260 (-1.269)	-0.258 (-1.277)
<i>STATE</i>	-0.274** (-1.998)	-0.273** (-2.001)	-0.269* (-1.948)	-0.266* (-1.944)
Constant	6.229*** (4.555)	6.242*** (4.667)	6.091*** (4.537)	6.116*** (4.657)
Obs.	5527	5527	5527	5527
Adj R-squared	0.172	0.171	0.172	0.171
Industry Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes

Industry Dummy\* Year Dummy                      Yes                      Yes                      Yes                      Yes

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**Table 13 The effect of exit threat on the readability of 10-K reports**

Column (1) uses the whole sample to test the effect of “exit threat” on the readability of 10-Ks. Column (2) uses the whole sample to test the effect of “exit threat” on the complexity-adjusted readability of 10-Ks. Column (3) tests the effect of “exit threat” on the readability of 10-Ks by using the high-entrenchment subsample. Column (4) tests the effect of “exit threat” on the complexity-adjusted readability of 10-Ks by using the high-entrenchment subsample. Column (5) tests the effect of “exit threat” on the readability of 10-Ks by using the low-entrenchment subsample. Column (6) tests the effect of “exit threat” on the complexity-adjusted readability of 10-Ks by using the low-entrenchment subsample. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>READ</i>	<i>READI</i>	<i>HIGH_E</i> <i>READ</i>	<i>HIGH_E</i> <i>READI</i>	<i>LOW_E</i> <i>READ</i>	<i>LOW_E</i> <i>READ</i>
<i>BH_COMPET</i>	-0.016 (-0.436)	-0.016 (-0.426)	-0.032 (-0.496)	-0.034 (-0.522)	-0.015 (-0.351)	-0.013 (-0.307)
<i>LIQUIDITY</i>	0.089 (0.409)	0.125 (0.580)	-0.334 (-0.907)	-0.296 (-0.810)	0.177 (0.688)	0.214 (0.842)
<i>BH_COMPET * LIQUIDITY</i>	<b>0.079*</b> <b>(1.650)</b>	<b>0.084*</b> <b>(1.769)</b>	0.004 (0.044)	0.010 (0.114)	<b>0.092*</b> <b>(1.690)</b>	<b>0.096*</b> <b>(1.795)</b>
<i>LN_AT</i>	-0.312*** (-6.481)	-0.324*** (-6.739)	-0.277*** (-3.484)	-0.289*** (-3.680)	-0.323*** (-5.838)	-0.334*** (-6.015)
<i>MTB</i>	-0.017* (-1.698)	-0.018* (-1.850)	-0.040** (-2.525)	-0.039** (-2.471)	-0.008 (-0.639)	-0.010 (-0.837)
<i>SPI</i>	-0.838 (-0.463)	-0.742 (-0.414)	-1.025 (-0.352)	-1.131 (-0.390)	-0.373 (-0.167)	-0.172 (-0.078)
<i>RETSTD</i>	-2.708*** (-3.843)	-2.671*** (-3.787)	-3.419*** (-2.980)	-3.305*** (-2.890)	-2.409*** (-2.950)	-2.411*** (-2.940)
<i>EARNSTD</i>	-1.110 (-0.612)	-1.007 (-0.563)	-2.032 (-0.785)	-2.106 (-0.823)	-0.251 (-0.117)	-0.025 (-0.012)
<i>AGE</i>	0.007** (1.976)	0.007* (1.941)	0.010** (2.037)	0.010** (2.013)	0.006 (1.374)	0.006 (1.338)
<i>ROA</i>	3.120*** (3.745)	3.070*** (3.727)	2.022 (1.643)	2.060* (1.685)	3.318*** (3.335)	3.211*** (3.262)
<i>MA</i>	-0.075 (-0.880)	-0.065 (-0.769)	-0.026 (-0.227)	-0.015 (-0.130)	-0.075 (-0.724)	-0.066 (-0.640)
<i>SEO</i>	-0.060 (-0.344)	-0.056 (-0.324)	-0.275 (-1.059)	-0.279 (-1.090)	-0.040 (-0.180)	-0.034 (-0.155)
<i>STATE</i>	-0.294** (-2.435)	-0.296** (-2.461)	-0.410** (-2.469)	-0.395** (-2.396)	-0.253* (-1.738)	-0.265* (-1.812)
Constant	3.512*** (5.967)	3.555*** (6.069)	4.138*** (3.963)	4.203*** (4.017)	3.506*** (5.316)	3.562*** (5.408)
Obs.	5527	5527	1886	1886	3641	3641
Adj R-squared	0.192	0.192	0.182	0.185	0.212	0.211
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy* Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes



**Table 14 Different types of unaffiliated 13D filers and the readability of 10-K reports: Change model**

**Panel A: Change model to test the influence of different types of unaffiliated 13D filers on the readability of 10-K reports**

Column (1) tests the effect of the bottom quartile of the change in management-focused blockholders between the current year and prior year on the change in the readability of 10-Ks between the current year and prior year. Column (2) tests the effect of the top quartile of the change in management-focused blockholders between the current year and prior year on the change in the readability of 10-Ks between the current year and prior year. Column (3) tests the effect of the bottom quartile of the change in policy-focused blockholders between the current year and prior year on the change in the readability of 10-Ks between the current year and prior year. Column (4) tests the effect of the top quartile of the change in policy-focused blockholders between the current year and prior year on the change in the readability of 10-Ks between the current year and prior year. Column (5) tests the effect of the bottom quartile of the change in information-focused blockholders between the current year and prior year on the change in the readability of 10-Ks between the current year and prior year. Column (6) tests the effect of the top quartile of the change in information-focused blockholders between the current year and prior year on the change in the readability of 10-Ks between the current year and prior year. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)	(5)	(6)
	$\Delta READ$	$\Delta READ$	$\Delta READ$	$\Delta READ$	$\Delta READ$	$\Delta READ$
<i>Q1_DIFFFACTOR1</i>	<b>0.514*</b> (1.790)					
<i>Q4_DIFFFACTOR1</i>		-0.167 (-0.633)				
<i>Q1_DIFFFACTOR2</i>			0.246 (1.166)			
<i>Q4_DIFFFACTOR2</i>				-0.317 (-1.297)		
<i>Q1_DIFFFACTOR3</i>					<b>-0.910**</b> (-2.204)	
<i>Q4_DIFFFACTOR3</i>						-0.279 (-0.640)
$\Delta DA$	-0.077 (-0.187)	-0.076 (-0.185)	-0.057 (-0.140)	-0.059 (-0.145)	-0.060 (-0.146)	-0.077 (-0.187)
$\Delta LN\_AT$	-0.323 (-1.344)	-0.361 (-1.509)	-0.289 (-1.178)	-0.307 (-1.257)	-0.356 (-1.495)	-0.356 (-1.494)
$\Delta MTB$	-0.005 (-0.416)	-0.005 (-0.416)	-0.005 (-0.373)	-0.005 (-0.396)	-0.005 (-0.404)	-0.006 (-0.427)
$\Delta SPI$	-0.491 (-0.305)	-0.564 (-0.351)	0.849 (0.628)	0.882 (0.653)	-0.479 (-0.299)	-0.614 (-0.380)
$\Delta RETSTD$	-0.918 (-1.026)	-0.883 (-0.983)	-1.030 (-1.160)	-1.070 (-1.206)	-0.910 (-1.011)	-0.897 (-1.001)
$\Delta EARNSTD$	-0.988 (-0.386)	-0.861 (-0.335)	-0.735 (-0.289)	-0.752 (-0.295)	-1.105 (-0.430)	-0.891 (-0.347)
$\Delta AGE$	0.020 (0.087)	0.027 (0.116)	0.014 (0.060)	0.028 (0.121)	0.023 (0.099)	0.030 (0.130)
$\Delta ROA$	1.340 (1.534)	1.403 (1.609)	0.034 (0.314)	0.044 (0.403)	1.445* (1.671)	1.407 (1.612)
<i>MA</i>	0.020 (0.297)	0.017 (0.249)	0.010 (0.143)	0.007 (0.105)	0.023 (0.337)	0.019 (0.278)

<i>SEO</i>	-0.154 (-0.956)	-0.146 (-0.906)	-0.170 (-1.054)	-0.148 (-0.913)	-0.135 (-0.834)	-0.144 (-0.893)
<i>STATE</i>	-0.028 (-0.618)	-0.028 (-0.620)	-0.029 (-0.640)	-0.026 (-0.574)	-0.027 (-0.587)	-0.027 (-0.594)
Constant	0.635 (0.648)	0.663 (0.676)	0.436 (0.441)	0.412 (0.415)	0.664 (0.677)	0.657 (0.670)
Obs.	4437	4437	4437	4437	4437	4437
Adj R-squared	0.110	0.110	0.109	0.109	0.111	0.110
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy*	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy						

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## Panel B Change model to test the influence of different types of unaffiliated 13D filers on the complexity-adjusted readability of 10-K reports

Column (1) tests the effect of the bottom quartile of the change in management-focused blockholders between the current year and prior year on the change in the complexity-adjusted readability of 10-Ks between the current year and prior year. Column (2) tests the effect of the top quartile of the change in management-focused blockholders between the current year and prior year on the change in the complexity-adjusted readability of 10-Ks between the current year and prior year. Column (3) tests the effect of the bottom quartile of the change in policy-focused blockholders between the current year and prior year on the change in the complexity-adjusted readability of 10-Ks between the current year and prior year. Column (4) tests the effect of the top quartile of the change in policy-focused blockholders between the current year and prior year on the change in the complexity-adjusted readability of 10-Ks between the current year and prior year. Column (5) tests the effect of the bottom quartile of the change in information-focused blockholders between the current year and prior year on the change in the complexity-adjusted readability of 10-Ks between the current year and prior year. Column (6) tests the effect of the top quartile of the change in information-focused blockholders between the current year and prior year on the change in the complexity-adjusted readability of 10-Ks between the current year and prior year. The dependent variables and all the explanatory variables are defined in Appendix A. All regressions include an intercept, year and industry fixed effects, as well as industry-year fixed effects. t-Statistics reported in parentheses are based on heteroskedasticity robust standard errors clustered by firm. \*\*\*, \*\*, and \* represent 1%, 5%, and 10% significance, respectively. All variables are winsorized at 1% and 99% level.

	(1)	(2)	(3)	(4)	(5)	(6)
	$\Delta READ1$	$\Delta READ1$	$\Delta READ1$	$\Delta READ1$	$\Delta READ1$	$\Delta READ1$
<i>Q1_DIFFFACTOR1</i>	<b>0.491*</b> (1.741)					
<i>Q4_DIFFFACTOR1</i>		-0.162 (-0.616)				
<i>Q1_DIFFFACTOR2</i>			0.253 (1.230)			
<i>Q4_DIFFFACTOR2</i>				-0.319 (-1.315)		
<i>Q1_DIFFFACTOR3</i>					<b>-0.910**</b> (-2.230)	
<i>Q4_DIFFFACTOR3</i>						-0.259 (-0.603)
$\Delta DA$	-0.009 (-0.024)	-0.009 (-0.022)	0.010 (0.027)	0.008 (0.021)	0.007 (0.019)	-0.009 (-0.024)
$\Delta LN\_AT$	-0.316 (-1.353)	-0.352 (-1.517)	-0.281 (-1.181)	-0.300 (-1.263)	-0.348 (-1.503)	-0.348 (-1.501)
$\Delta MTB$	-0.005 (-0.421)	-0.005 (-0.420)	-0.005 (-0.374)	-0.005 (-0.399)	-0.005 (-0.407)	-0.005 (-0.432)
$\Delta SPI$	-0.643 (-0.408)	-0.713 (-0.453)	0.700 (0.531)	0.734 (0.557)	-0.627 (-0.401)	-0.760 (-0.480)
$\Delta RETSTD$	-0.952 (-1.103)	-0.919 (-1.060)	-1.067 (-1.244)	-1.106 (-1.292)	-0.946 (-1.090)	-0.932 (-1.077)
$\Delta EARNSTD$	-0.953 (-0.379)	-0.832 (-0.330)	-0.703 (-0.282)	-0.719 (-0.288)	-1.074 (-0.425)	-0.861 (-0.342)
$\Delta AGE$	0.023 (0.102)	0.029 (0.131)	0.016 (0.071)	0.031 (0.137)	0.025 (0.113)	0.032 (0.145)
$\Delta ROA$	1.346 (1.559)	1.406 (1.632)	0.033 (0.312)	0.043 (0.406)	1.448* (1.695)	1.409 (1.634)
<i>MA</i>	0.020 (0.305)	0.017 (0.258)	0.009 (0.146)	0.007 (0.106)	0.023 (0.349)	0.018 (0.286)

<i>SEO</i>	-0.197 (-1.346)	-0.189 (-1.293)	-0.214 (-1.461)	-0.191 (-1.299)	-0.178 (-1.211)	-0.187 (-1.279)
<i>STATE</i>	-0.023 (-0.533)	-0.023 (-0.536)	-0.025 (-0.556)	-0.022 (-0.487)	-0.022 (-0.502)	-0.022 (-0.510)
Constant	0.246 (0.268)	0.273 (0.296)	0.048 (0.051)	0.023 (0.025)	0.275 (0.298)	0.267 (0.290)
Obs.	4437	4437	4437	4437	4437	4437
Adj R-squared	0.107	0.107	0.106	0.106	0.108	0.107
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year Fixed	Yes	Yes	Yes	Yes	Yes	Yes