HOW REVIEW AMBIGUITY AND ACCESS COSTS OF SEC REVIEW CORRESPONDENCE AFFECT INVESTOR JUDGMENTS

BY

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DISSERTATION

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ABSTRACT

Review correspondence between the SEC and firms is a potentially valuable resource for investors. Review correspondence often reveals information about firms’ financial reporting quality, which has important implications for investors’ processing of financial information and investment judgments. However, there is little evidence on how characteristics of review correspondence influence investors’ decision processes. Drawing on psychology theory, I predict that two key informational characteristics—review ambiguity (i.e., a lack of transparency about outcomes from the SEC’s review process) and access costs (i.e., the amount of effort required to access review correspondence)—jointly influence investors’ information processing and their resulting investment judgments. Results show that investors integrate information to a greater extent as review ambiguity decreases, but only when access costs are relatively low. Review ambiguity has no effect on investors’ integration of review correspondence information when access costs are relatively high. Further, review ambiguity and access costs also jointly affect investors’ resulting investment judgments. My results provide important new insights on potential costs to investors from the extent of SEC transparency during its review process, particularly as information becomes more easily accessible.
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TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION ................................................................. 1
CHAPTER 2: BACKGROUND AND PRIOR LITERATURE .......................... 7
CHAPTER 3: HYPOTHESIS DEVELOPMENT ....................................... 14
CHAPTER 4: EXPERIMENTAL METHOD ............................................. 22
CHAPTER 5: RESULTS ........................................................................... 27
CHAPTER 6: CONCLUSION ................................................................. 41
FIGURES AND TABLES ........................................................................ 43
REFERENCES ....................................................................................... 58
APPENDIX A: EXAMPLE SEC COMMENT LETTER .............................. 66
APPENDIX B: EXPERIMENTAL MATERIALS ...................................... 68
APPENDIX C: IRB APPROVAL LETTER ................................................ 73
CHAPTER 1: INTRODUCTION

Review correspondence between the SEC and firms often reveals valuable information about firms’ financial reporting quality (Cassell, Dreher, and Myers 2013; Dechow, Lawrence, and Ryans 2016; Ryans 2018). For example, Dechow et al. (2016) show that managers anticipate the informational value of review correspondence to market participants, increasing their trading prior to the public release of review correspondence and profiting from their trades. Other studies also underscore the value of review correspondence as a source of financial reporting quality information (Gietzmann and Isidro 2013; Cunningham, Schmardebeck, and Wang 2017; Ryans 2018). Despite the potential usefulness of review correspondence for investors, and particularly nonprofessional investors, there is little evidence on how psychological factors influence investors’ reactions to this important information. In this study, I focus on two key characteristics of SEC review correspondence information (hereafter, informational characteristics) that are likely to have important consequences for investors. Specifically, I examine how review ambiguity (i.e., a lack of transparency about outcomes from the SEC’s review process) and access costs (i.e., the amount of effort required to access review correspondence) jointly influence investors’ processing of firm financial information and investment judgments.¹

Understanding the effects of these two informational characteristics is important given regulators’ and standard-setters’ renewed focus on increasing the usefulness and accessibility of financial information for investors (FASB 2018; IFRS Foundation 2018; SEC 2018c). For nonprofessional investors, review correspondence is an especially valuable source of reporting

¹ My definition of review ambiguity is consistent with other studies that define ambiguity as missing information that is relevant and could be known (e.g., Frisch and Baron 1988; Camerer and Weber 1992; Winchel 2015). Information may be missing either due to cognitive or informational constraints and prevents one from understanding the probabilities of outcomes (Ju and Miao 2012; Williams 2015). Ambiguity, or “Knightian” uncertainty, is conceptually distinct from risk, or measurable uncertainty (Knight 1921; Ellsberg 1961; White 2017).
quality information that is likely underutilized. Under current practice, the SEC only reveals the outcome when it reviews a firm’s financial report and has comments—it does not reveal the outcome when it reviews a firm’s financial report and has no comments or when it does not provide any review. Importantly, these latter two review outcomes (no comments or no review) comprise the majority of review outcomes (Deloitte 2016; SEC 2018a, 2018b). In contrast to this high review ambiguity environment, the SEC could reduce review ambiguity by revealing when any of the three outcomes occur. In addition, although available on EDGAR, investors face difficulties in accessing review correspondence. For example, each piece of correspondence is posted separately, release timing is unpredictable, file labels are unintuitive, and neither the SEC nor firms provide notice when new correspondence is available. While reducing review ambiguity or access costs could each have significant consequences for investors, my study underscores the importance of considering these two informational characteristics jointly rather than independently.

I draw on psychology theory to predict that review ambiguity and access costs will have an interactive effect on investors’ processing of review correspondence information. Prior research shows that ambiguity often influences individuals’ decision processes and suggests that investors will integrate review correspondence information to a greater extent as review ambiguity decreases. However, the effects of review ambiguity on investors’ integration are likely to depend on the access costs investors face, given that prior research indicates other informational characteristics will have a weaker effect as access costs increase (i.e., when greater

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2 Information processing consists of both acquisition and integration (Maines and McDaniel 2000; Hodge, Kennedy, and Maines 2004). In the context of review correspondence, acquisition reflects whether investors view the review correspondence information. Integration reflects investors’ assessment of the information and the extent to which the information is incorporated into their judgments. Investors’ acquisition of review correspondence is likely to depend on the access costs faced. However, my theoretical predictions largely focus on review ambiguity and access costs jointly influencing investors’ integration of review correspondence information, which is necessary for processing to occur.
effort increases integration). Thus, when access costs are relatively low, I predict investors will integrate review correspondence information to a greater extent as review ambiguity decreases. In contrast, review ambiguity is less likely to affect investors’ integration of review correspondence information when access costs are relatively high. That is, I expect higher access costs will have a dominant effect on investors’ integration and, thus, will operate as a boundary condition on the effects of review ambiguity. Further, because review correspondence is useful in evaluating and comparing investment alternatives, review ambiguity and access costs should also have an interactive effect on investors’ investment judgments.

I examine my predictions using two experiments. Experiment 1 employs a $2 \times 2$ between-subjects design, using Masters in accountancy students enrolled in a financial statement analysis course as participants. Participants evaluate two firms as potential investments, based on the firms’ financial reports and review correspondence from a “Regulator.” There are three possible review outcomes for each firm: review with comments, review without comments, or no review. The first firm’s (MoveCorp’s) review correspondence is the same in all conditions and reveals a one-time gain that temporarily reduced its selling, general, and administrative (SG&A) expenses. I manipulate review ambiguity by varying how revealing the Regulator is regarding review outcomes for the second firm. Participants learn that the Regulator either issues a review letter only when the Regulator reviews and has comments, consistent with current SEC practice (High Ambiguity) or for all three review outcomes (Low Ambiguity). Further, for the second firm, the Regulator either provides no review letter, consistent with current SEC practice (High Ambiguity) or discloses that it reviewed the firm’s financial report and had no comments (Low Ambiguity). I manipulate access costs by varying the amount of effort required to access the

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3 My manipulation of review ambiguity is a joint manipulation of ambiguity regarding review outcomes generally and the second firm’s review outcome (review with no comments). Prior experimental accounting research explains
review correspondence. Participants answer 15 simple algebra questions (*High Cost*) or can view the review correspondence without answering any questions (*Low Cost*).

Participants compute financial ratios for each firm, indicate willingness to invest, and respond to other measures. If participants do not process MoveCorp’s review correspondence information, then MoveCorp appears to be the better performing firm. However, if participants process MoveCorp’s review correspondence information and adjust MoveCorp’s SG&A expenses for the one-time gain, then the second firm appears to be the better performing firm.

Results from Experiment 1 show that review ambiguity and access costs jointly influence investors’ integration and, thus, processing of review correspondence information. Specifically, investors integrate review correspondence information to a greater extent as review ambiguity decreases, but only when access costs are relatively low. In contrast, review ambiguity has no effect on investors’ integration when access costs are relatively high, consistent with the dominant effect of access costs on investors’ integration. Investors’ investment judgments also reflect their differing information processing.

To provide convergent evidence, Experiment 2 employs a $1 \times 2$ between-subjects design and a similar pool of participants. I use an alternative *Low Ambiguity* operationalization, where the second firm’s review correspondence states that the Regulator did *not* review its financial report, and manipulate access costs in the same manner (high or low) as in Experiment 1. Importantly, results for investors’ information processing are inferentially similar to Experiment 1, confirming that investors’ processing depends on overall review ambiguity rather than the

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that compound manipulations are common when two aspects of a construct vary in the natural setting, as they do with review correspondence. Further, compound manipulations can improve the generalizable inferences that can be made from a study’s findings (Kadous, Kennedy, and Pecher 2003; Kadous, Leiby, and Pecher 2013; Bol and Leiby 2018). In Experiment 2, I examine an alternative operationalization of review ambiguity, where the Regulator reveals that it did *not* review the second firm’s financial report. Information processing results are inferentially similar to Experiment 1, confirming that investors’ processing depends on overall review ambiguity rather than the second firm’s review outcome (no comments or no review).
second firm’s review outcome. However, results show investors’ investment judgments differ depending on the nature of the second firm’s review outcome (no comments or no review). Even though financial information about the second firm is identical across conditions, investors are less likely to invest in the non-reviewed firm when the Regulator reveals a no-review outcome. Collectively, my results provide important new insights on potential costs to investors and firms from the extent of SEC transparency during its review process, particularly as information becomes more easily accessible.

I contribute to prior literature and practice in several important ways. Prior literature indicates that both ambiguity and access costs have important consequences for individuals’ decision processes, including affecting information search (Zimbelman and Waller 1999), information processing (Williams 2015; Winchel 2015; White 2017), and judgments (Nelson and Tayler 2007; Smith, Tayler, and Prawitt 2016; Grant 2018). I contribute to these literatures by providing evidence that the effects of review ambiguity and access costs on investors’ information processing and judgments depend on one another. Further, my results show that review ambiguity can substantially affect investors’ processing for firms with review correspondence (i.e., when there is no uncertainty about the review outcome for that firm). To my knowledge, my study is also the first to examine how ambiguity about review outcomes affects investors’ information processing and judgments. These findings are likely to take on a heightened importance as the availability of information about external review and oversight processes (e.g., auditors’ critical audit matter discussions) increases.

This study also has important practical implications. Using an experimental approach allows me to provide ex ante evidence on conditions that do not currently exist in practice
My results may help inform the SEC and other regulators and standard-setters on the potential implications of reducing review ambiguity and access costs, underscoring the importance of considering these two informational characteristics jointly rather than independently. I provide evidence that reducing access costs may actually harm investors’ integration unless the SEC also reduces ambiguity about review outcomes, consistent with calls from investor groups for greater transparency (e.g., SEC Insight 2004). At the same time, results from Experiment 2 indicate that reducing review ambiguity may also have unintended consequences for firms that do not undergo a regulatory review. Finally, the SEC justifies its decision to not reveal certain information during the filing review process as helping preserve the integrity of the review process (SEC 2018b), though it also recognizes demand for review correspondence information and its potential value to investors (SEC 2005; SEC 2011). My results may help the SEC better understand how measures taken to improve the efficacy of regulatory oversight affect the usefulness of information for investors.

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4 I use an abstract manipulation of access costs to improve internal validity and enhance the generalizable inferences from my study (Elliott 2015). From a practical perspective, the SEC could reduce access costs in a number of ways, including making review correspondence easier to access on EDGAR (clarifying labeling, combining correspondence into a single file, etc.) or requiring firms to disclose review correspondence in their financial reports or on their company websites.
CHAPTER 2: BACKGROUND AND PRIOR LITERATURE

2.1 FRAMEWORK OF REPORTING QUALITY INDICATORS

Regulators, standard-setters, and academic researchers all emphasize the importance of firm financial reporting quality to investors (Dechow, Ge, and Schrand 2010; FASB 2010; SEC 2018c). Reporting quality affects both expectations and the perceived riskiness of earnings and cash flows (Hribar and Jenkins 2004; Beneish, Billings, and Hodder 2008) and has important implications for investors’ processing of financial information and investment judgments. Despite the importance of reporting quality to their judgments, investors face significant challenges in actually assessing firm reporting quality. A large accounting literature examines proxies for firms’ earnings quality and audit quality, two critical components of reporting quality (Dechow et al. 2010; DeFond and Zhang 2014). For example, prior research suggests that certain earnings attributes (e.g., earnings persistence, smoothness, etc.) are indicative of higher earnings quality. However, many of these proxies are unlikely to be useful for investors due to their complexity and the need to evaluate across multiple periods. Instead, any reporting quality indicators (i.e., publicly-available information that is informative about a firm’s financial reporting) are likely to be particularly important for investors.

Figure 1 presents a framework of prominent reporting quality indicators for investors, detailing the source of the indicator, constructs examined in prior studies, and the type of reporting quality signal provided for investors. Drawing on the FASB’s Conceptual Framework for Financial Reporting (FASB 2010), I propose that reporting quality indicators are useful for investors when they help investors assess overall firm reporting quality and/or analyze firms’

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5 Prior research on earnings quality largely focuses on the association between various earnings attributes (e.g., persistence, smoothness, accruals, etc.) and equity valuation, showing that more favorable attributes (e.g., greater persistence, smoothness, lower discretionary accruals, etc.) are associated with higher equity valuations and price responses (e.g., Bhattacharya et al. 2003; Francis et al. 2004; Francis et al. 2005; Dechow et al. 2010).
financial information. Several qualitative characteristics may enhance the usefulness of indicators for investors. First, indicators are more likely to be useful when they are able to reflect greater variation in reporting quality (DeFond and Zhang 2014). Indicators that signal only severe reporting issues (e.g., SEC Accounting and Auditing Enforcement Releases (AAERs)) may provide a powerful signal of overall reporting quality but may not be as helpful for investors in analyzing firm financial reports. Second, greater accessibility can enhance the usefulness of indicators. Third, greater interpretability can enhance the usefulness of an indicator. Interpretability reflects an indicator’s understandability as well as its comparability. Finally, greater timeliness may enhance an indicator’s usefulness.

Importantly, reporting quality indicators differ significantly across these various qualitative characteristics. For example, two prominent indicators that may provide a strong signal of overall reporting quality are AAERs and restatements issued by firms. Consistent with investors using these indicators to adjust their perceptions of firm reporting quality, prior studies document negative price reactions to the announcement of both AAERs (Feroz et al. 1991; Dechow et al. 1996; Karpoff et al. 2008) and restatements (e.g., Hribar and Jenkins 2004; Palmrose et al. 2004). While both indicators may be helpful in identifying firms with low reporting quality, they are increasingly uncommon and often untimely, which limits their usefulness to investors. For example, in 2016, the SEC issued only 109 AAERs, the vast majority of which did not target public companies (Floyd Advisory 2017). Restatement rates are

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6 The FASB’s Conceptual Framework (2010) identifies understandability and comparability as two distinct qualitative characteristics. For purposes of my framework, I combine these two characteristics into a single construct because I expect that both are necessary to meaningfully enhance the usefulness of an indicator for investors.

7 Another external indicator of reporting quality is the disclosure rankings developed by the Association for Investment Management and Research (AIMR). A committee of security analysts develops the AIMR rankings, which provide quantitative scores for firm disclosure quality based upon annual reports, interim reports, and investor relation activities (Bushee and Noe 1999; Bens and Monahan 2004). Although several studies use the AIMR rankings as proxies for disclosure quality (e.g., Bens and Monahan 2004), there is little evidence that investors access or use the rankings when assessing firm financial reporting quality.
also at historical lows, with only 130 reissuance restatements issued in 2016 (Bonaldi 2017). AAERs and restatements are also often issued years after the related financial reports.

Two other prominent indicators that may offer valuable information about reporting quality are internal control disclosures and opinions and auditor-provided discussions of critical audit matters (CAMs). First, SOX requires firms to include internal control disclosures in their periodic filings, certifying the firm’s internal control system and disclosing weaknesses when discovered. Auditors are also required to provide an annual opinion on the firm’s internal controls. Research shows that firms’ cost of capital increases around the disclosure of internal control issues, consistent with investors reassessing information risk at firms (Beneish et al. 2008; Hammersley et al. 2008; Ashbaugh-Skaife et al. 2009) (for an exception, see Ogneva et al. 2007). In addition to affecting perceived information risk at firms, Beneish et al. (2008) show that internal control disclosures also lead to changes in cash flow expectations. Second, beginning in 2019, U.S. auditors are required to include discussions of CAMs in their audit reports (PCAOB 2017). Research suggests that discussions of CAMs are likely to influence investors’ assessments of firm reporting quality as well as their investment judgments (Christensen et al. 2014; Elliott et al. 2018). However, other studies examining expanded auditor opinions in the United Kingdom indicate that the informational value of these opinions may be limited (e.g., Gutierrez et al. 2017; Lennox et al. 2017).

Although internal control disclosures and opinions and discussions of CAMs may provide investors with valuable information about reporting quality, there are important limitations to their usefulness. Both indicators are indirect signals of financial reporting quality. Firms are primarily responsible for disclosing any internal control issues, and only some of the

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8 While investors react negatively to the initial disclosure of internal control issues, research shows investors react positively to the remediation of such issues (Ashbaugh-Skaife et al. 2009; Cheng et al. 2013).
disclosures are actually audited. In addition, these disclosures focus on internal control issues and may be less useful for assessing reporting quality or analyzing firms’ financial reports. Similarly, while discussions of CAMs may highlight potential reporting issues for investors, their primary purpose is to identify audit areas involving challenging, subjective, or complex judgments (PCAOB 2017). In sum, prior research highlights the importance of reporting quality to investors, but investors face significant challenges in assessing firm reporting quality given the few public indicators available to them and the limitations associated with those indicators.

Review correspondence has several potential advantages over alternative indicators of reporting quality. Review correspondence is initiated by a compliance expert and focuses specifically on firms’ financial reporting (SEC Insight 2004; Gietzmann and Isidro 2013; Grove, Johnsen, and Lung 2016). The SEC has expertise in reporting and accounting matters and thus is capable of commenting on an array of financial reporting issues. Further, unlike other reporting quality indicators, review correspondence is pervasive. Over 50 percent of public firms are reviewed annually (SEC 2018a), and, in 2017, the SEC issued over 4,000 comment letters to 1,120 different firms (Bonaldi 2018).

2.2 SEC REGULATORY OVERSIGHT AND REVIEW CORRESPONDENCE

The SEC provides regulatory oversight of public firms by selectively reviewing corporate filings, targeting disclosures that appear “to be materially deficient in explanation or clarity” (SEC 2018b). The SEC issues a comment letter when it believes that a company can improve its

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9 The Sarbanes-Oxley Act of 2002 (SOX) requires the SEC to review each public firm’s filings at least once every three years, although some firms receive more frequent reviews. For example, in 2017, the SEC reviewed 56 percent of public firms (SEC 2018a). Although the SEC does not disclose the criteria used for selecting firms to review, Section 408 of SOX directs the SEC to consider a variety of factors, including a firm’s history of past restatements, stock price volatility, and size, as well as any other factors the SEC believes to be relevant. Filing reviews may consist of a full cover-to-cover review, a review of only financial statements and related disclosures, or a targeted review of specific disclosures. In some comment letters, the SEC asks the firm to provide additional information to
disclosures or enhance its compliance with applicable requirements (SEC 2018b). Among the most popular recent comment topics are firms’ discussion of results of operations in the MD&A, critical accounting policies and estimates, non-GAAP measures, fair value reporting, segment reporting, income taxes, and revenue recognition (Deloitte 2016). Appendix A presents an example SEC comment letter. The firm and SEC correspond until the SEC is satisfied with the firm’s responses, at which point the SEC issues a completion letter. Review correspondence is later released on EDGAR (SEC 2005; SEC 2011).

Review correspondence frequently reveals information useful to investors in assessing firms’ reporting quality (Cassell et al. 2013; Dechow et al. 2016; Ryans 2018). For example, Dechow et al. (2016) show that managers anticipate the informational value of revenue recognition comment letters and increase trading prior to their public release. Similarly, other market participants recognize the usefulness of review correspondence information for financial reporting quality assessments and investment decisions, including institutional investors (Greenlight Capital 2011; Pershing Square 2012; Gietzmann and Isidro 2013; Prescience Point 2013) and banks (Cunningham et al. 2017).

Despite the potential usefulness of SEC review correspondence for investors, prior archival research provides mixed evidence on investor reactions to its public release. Dechow et al. (2016) find a negative short-term reaction to the release of revenue recognition comment letters and a negative post-release drift. Similarly, Edwards, Klassen, and Pinto (2018) find negative reactions to the release of tax-related comment letters for tax aggressive firms. Ryans

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help it interpret the firm’s filing. In others, the SEC asks the firm to amend its filings or revise disclosures in future filings. Many filing reviews are completed without the issuance of a comment letter.  
10 Before 2005, review correspondence required a Freedom of Information Act (FOIA) request to access. Beginning in 2005, the SEC changed its policy to publicly disclose all correspondence to expand transparency and level the playing field for potential users (SEC 2005). In addition to EDGAR, correspondence is also available on research platforms like Audit Analytics and LexisNexis.
(2018) uses several measures (returns, EDGAR downloads, and text) to identify important comment letters, finding that such comment letters can predict lower future earnings, restatements, and write-downs. In contrast, other studies provide evidence of little or no investor reaction to the release of review correspondence (Johnson 2015; Johnston and Petacchi 2017). Other studies show that review correspondence may also lead to subsequent changes in firms’ disclosure and operating choices (Bens, Cheng, and Neamtiu 2016; Kubick, Lynch, Mayberry, and Omer 2016; Johnston and Petacchi 2017).

2.3 REVIEW AMBIGUITY AND ACCESS COSTS

The SEC justifies its decision not to reveal certain information during the filing review process as helping preserve the integrity of the process (SEC 2018b). For example, full transparency about review outcomes could allow managers to anticipate when a review will (or will not) occur. Further, investors may inappropriately interpret a no-comments outcome as a certification of the firm’s financial reporting. As a result, under the SEC’s current approach, review correspondence is only available when the SEC both reviews and comments on a firm’s filings. When the SEC reviews a firm’s filings and has no comments, the SEC does not issue a comment letter or other notification. Similarly, if the SEC does not review a firm’s filings, it does not provide any notification. Thus, the SEC currently only reveals when one of three review outcomes occur. Instead, and consistent with other SEC actions meant to increase the usefulness of review correspondence (SEC 2005, 2011), the SEC could reveal when any of the three review outcomes occur. This includes when the SEC reviews a firm’s filings and has no comments or when it does not review a firm’s filings, as it does for registration statements (SEC 2015).
Prior studies suggest that the limited market reactions to the public release of review correspondence may be partly attributable to the relatively high costs associated with accessing review correspondence, including the unintuitive disclosure on EDGAR, unpredictability of release timing, and low accessibility on firm websites (Dechow et al. 2016; Ryans 2018). Each filing is posted separately on EDGAR, requiring investors to separately search for and review each part of the correspondence. Firms are only required to disclose any unresolved comments in their filings, which are rare. Prior studies imply that reducing access costs may be one way to increase the usefulness of review correspondence for investors. However, reducing access costs may have limited benefits, since investors must not only acquire review correspondence but also integrate the information into their judgments. Further, as access costs decrease, other informational characteristics like review ambiguity are likely to take on increased importance.

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11 Consistent with investors being inattentive to the initial release of review correspondence, over 80 percent of review correspondence receives no search requests on the day of public release (Dechow et al. 2016).
CHAPTER 3: HYPOTHESIS DEVELOPMENT

In this section, I develop theory to predict that review ambiguity and access costs will jointly influence investors’ processing of review correspondence information and investment judgments. Review ambiguity reflects a lack of transparency about outcomes from the SEC’s review process, while access costs reflect the amount of effort required to access review correspondence. Psychology theory suggests that the two informational characteristics will have important consequences for investors’ judgments. Below, I first provide background on information processing and then separately examine the effects of review ambiguity and access costs on investors’ processing of review correspondence information. Finally, I develop theory to predict that review ambiguity and access costs will have an interactive effect on investors’ information processing and investment judgments.

3.1 INFORMATION PROCESSING AND PRIOR LITERATURE

Investors must process the information in review correspondence for the correspondence to be useful to their judgments. Information processing consists of acquisition and integration (Maines and McDaniel 2000; Hodge et al. 2004). In the context of review correspondence, acquisition reflects whether an investor views the review correspondence. Integration (or evaluation and reliance) reflects an investor’s assessment of the information and the extent to which an investor takes the information into account. The components of information processing operate sequentially, with acquisition necessary before integration can occur (Maines and McDaniel 2000).

Prior research indicates that a variety of informational characteristics, or descriptive attributes of information, affect information processing. Informational characteristics include
both “internal” characteristics (i.e., attributes inherent to the information) as well as “external” characteristics (i.e., attributes of the environment within which the information is made available). For example, internal characteristics include attributes such as location, salience, and categorization, while external characteristics include attributes such as timing or the medium through which information is disseminated. Importantly, both internal and external characteristics have important consequences for users, including affecting how users process the information (Libby and Emett 2014). In the following sections, I develop theory to predict that two external informational characteristics—review ambiguity and access costs—will jointly influence investors’ processing and investment judgments.12

3.2 REVIEW AMBIGUITY

Research suggests that review ambiguity (i.e., a lack of transparency about outcomes from the SEC’s review process) can have important consequences for investors. Prior research indicates that ambiguity affects individuals’ decision processes. Consistent with prior research, I define ambiguity as missing information that is relevant and could be known (e.g., Frisch and Baron 1988; Camerer and Weber 1992; Winchel 2015). Ambiguity can arise from a lack of information, including about the information-generating process (e.g., Zimbelman and Waller 1999; Wu and Tuttle 2014; Winchel 2015), or a lack of precision or reliability (e.g., Nelson, Bloomfield, Hales, and Libby 2001; Han and Tan 2010; Tang, Zarowin, and Zhang 2015; White 2017). When facing ambiguity, individuals often exhibit “ambiguity aversion,” or a preference

12 Both review ambiguity and access costs relate to the broader construct of transparency. Although defined in various ways in the literature, transparency is typically conceptualized as revealing information in a way that is readily understandable to users (e.g., Hodge et al. 2004; Barth and Schipper 2008; Elliott, Krische, and Peecher 2010). With internal informational characteristics, transparency and access costs are often inherently linked. For example, the location of information often affects both the information’s transparency and accessibility to users. In contrast, with external informational characteristics, transparency and access costs are more likely to be conceptually distinct. Thus, it is important to examine the construct of access costs on its own.
for unambiguous choices over ambiguous choices, even when expected values are identical (Ellsberg 1961; Einhorn and Hogarth 1985; Frisch and Baron 1988). Ambiguity can make individuals shy away from making decisions or taking either side of a bet (Heath and Tversky 1991; Camerer and Weber 1992), though other studies suggest that individuals may be insensitive to uncertainty regarding information reliability (Bloomfield, Libby, and Nelson 2000; Nelson et al. 2001; Wainberg, Kida, Piercey, and Smith 2013).

Ambiguity can also have significant consequences for individuals’ information processing (Epstein and Schneider 2008; Han and Tan 2010; Tang et al. 2015). For example, greater ambiguity increases investors’ susceptibility to motivated reasoning (Han and Tan 2010). Ambiguity is also shown to affect individuals’ information search strategies (Zimbelman and Waller 1999) and their reliance on heuristic cues when evaluating informational credibility (Winchel 2015; Kelton and Montague 2018).

Importantly, other research suggests that ambiguity often leads to reduced information integration. For example, individuals frequently discount or even disregard information with an ambiguous component, even when it is value relevant (Van Dijk and Zeelenberg 2003; Caskey 2009; Wu and Tuttle 2014). Ambiguity creates additional complexity when interpreting information and, thus, discounting may arise from a variety of cognitive or motivational factors.13 Collectively, these studies suggest that integration is likely to differ based on the

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13 Other studies suggest that greater ambiguity may actually increase investors’ information integration. For example, research shows that individuals often use a “max-min” axiom when evaluating information in ambiguous situations (Ellsberg 1961). Consistent with ambiguity aversion, investors react more strongly to bad news than good news as uncertainty increases (Epstein and Schneider 2008; Williams 2015; White 2017), and analysts place greater weight on the lower-end of management guidance ranges (Tang et al. 2015). I expect that greater review ambiguity will decrease investors’ integration for at least two reasons. First, the ambiguity inherent in my setting relates to the interpretability of review correspondence information (i.e., when there is no uncertainty about the review outcome for that firm), whereas prior studies frequently examine situations where there is uncertainty regarding the precision of the underlying information. Second, while review correspondence information is a helpful reporting quality indicator, investors are still able to process firm financial information and make their investment judgments without considering the implications of the information. Thus, I expect the likelihood of discounting review correspondence
ambiguity in the information environment, particularly in the absence of other cues affecting processing.

Under the SEC’s current review process, investors can observe when the SEC reviews and issues comments, but they cannot observe when the SEC reviews a firm’s filings and has no comments or when it does not review at all. This asymmetric production of review correspondence creates ambiguity regarding the review status of firms without review correspondence. In addition, for firms with review correspondence, investors encounter significant environmental ambiguity given that they lack sufficient information to even understand the probabilities of various review outcomes. This ambiguity in the information environment presents challenges to investors when trying to evaluate the implications of the review correspondence. Greater review ambiguity makes it more difficult for investors to understand the implications of the information because it is not clear what triggered the review correspondence or how serious or extensive an identified concern is among firms. As a result, greater review ambiguity makes it more difficult for investors to use review correspondence to evaluate and compare firms.

Accordingly, I expect investors are less likely to integrate review correspondence information as review ambiguity increases. In contrast, lower review ambiguity makes it easier for investors to assess the information’s implications and make comparisons across firms. As a result, investors are more likely to integrate review correspondence information as review ambiguity decreases, which should, in turn, improve investors’ ability to evaluate and compare firms. Importantly, however, the effect of review ambiguity on investors’ integration is likely to depend on other informational characteristics, including access costs.

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information to be greater in my setting than when the underlying information is a required input to investors’ judgments.
3.3 ACCESS COSTS

Prior studies suggest that access costs (i.e., the amount of effort required to access review correspondence) will also have important consequences for investors’ processing of review correspondence information. Reducing access costs is likely to increase acquisition of review correspondence information (Bucklin 1966; Ratchford 1982; Smith, Vekatraman, and Dholakia 1999). However, investors’ processing ultimately depends on their integration of the information. Research shows that how individuals acquire information influences the extent to which the information is integrated and affects their judgments. Specifically, information affects judgments to a greater extent when individuals seek out or exert more effort to acquire the information. For example, Bastardi and Shafir (1998) and Redelmeier, Shafir, and Aujla (2001) provide evidence that nondiagnostic (irrelevant) information affects judgments to a greater extent when individuals seek out the information. Similarly, Nelson and Tayler (2007) show that information has a greater effect on financial statement users’ judgments when users must expend more effort to acquire the information. Grant (2018) provides evidence that, by influencing the effort exerted by investors, information choice in firms’ financial disclosures affects investors’ processing. These studies suggest that increased integration is consistent with individuals relying on external cues like effort to guide their judgments.

Consistent with this literature, I expect investors are more likely to integrate information when they exert more effort to acquire the information. Conversely, when less effort is required, investors are less likely to integrate the information, since effort no longer operates as a cue to increase information integration. Accordingly, by decreasing the effort required of investors, reducing access costs is likely to have a negative effect on investors’ integration and, thus, processing of review correspondence information. Further, in the absence of high access costs,
other informational characteristics, like review ambiguity, are likely to exert a stronger effect on investors’ processing.

3.4 JOINT EFFECTS OF REVIEW AMBIGUITY AND ACCESS COSTS ON INFORMATION PROCESSING AND INVESTMENT JUDGMENTS

Collectively, prior research suggests that review ambiguity and access costs will have an interactive effect on investors’ processing of review correspondence information and investment judgments. While reducing access costs should increase *acquisition* of review correspondence information, investors’ processing of review correspondence ultimately depends on *integrating* the information. It is plausible that review ambiguity may affect investors’ integration similarly regardless of access costs. However, research suggests that access costs are likely to serve as a boundary condition on the effects of review ambiguity on investors’ integration.

Prior studies show that pursuit of information and greater effort increase processing of both diagnostic and nondiagnostic information (Bastardi and Shafir 1998; Nelson and Tayler 2007; Grant 2018). That is, the manner in which individuals access information has a dominant effect on how they integrate the information, increasing reliance on information that is not even decision-relevant. This implies that, when access costs are relatively high, investors are less likely to be influenced by other informational characteristics and, therefore, review ambiguity is likely to have a diminished influence on investors’ integration. Conversely, when access costs are relatively low, review ambiguity is likely to have a stronger effect on investors’ integration of review correspondence information. Specifically, investors’ integration of review correspondence information should increase as review ambiguity decreases (i.e., the SEC is more transparent about its review outcomes).
To summarize, I predict that review ambiguity and access costs will have an interactive effect on investors’ integration and, thus, processing of review correspondence information.\textsuperscript{14} Further, when review correspondence reveals information that is useful in assessing firms’ reporting quality, increased processing of the review correspondence information should improve investors’ ability to compare and evaluate firms’ financial information.\textsuperscript{15} This leads to my hypotheses:

**H1:** The effect of review ambiguity on investors’ processing of review correspondence information will strengthen as access costs decrease.

**H2:** As access costs decrease, investors’ comparative investment judgments will reflect review correspondence information to a greater extent as review ambiguity decreases.

Importantly, the SEC reduces review ambiguity when it reveals that it reviewed a firm’s financial report and had no comments (no-comments outcome) or when it reveals that it did not review a firm’s financial report (no-review outcome). While either outcome should lead to improved information processing consistent with H1, it is possible that the effects on comparative investment judgments could differ based upon the nature of the revealed outcome.

For example, when the SEC reveals a no-comments outcome, investors can more easily compare the two firms because both received regulatory review. In contrast, revealing a no-review outcome may actually increase ambiguity about the non-reviewed firm.\textsuperscript{16} Thus, I separately examine when review ambiguity is reduced with a no-comments outcome (Experiment 1) and a

\textsuperscript{14}I frame my first hypothesis in terms of processing rather than integration to also account for the negative effect of access costs on acquisition. Accordingly, I do not make directional predictions for overall information processing—rather, my first hypothesis reflects the differing effects of review ambiguity depending on the extent of access costs. In Chapter 5, I separately examine the effects of review ambiguity and access costs on processing as well as both acquisition and integration.

\textsuperscript{15}In my experiment, ActiveCo is the better performing firm once investors adjust for MoveCorp’s transitory gain revealed in the review correspondence. Thus, with an increased ability to compare and evaluate the two firms, investors’ comparative investment judgments should improve and reflect greater willingness to invest in ActiveCo.

\textsuperscript{16}Relatedly, other research shows that market participants positively value oversight from auditors because auditor review and assurance help to reduce information risk (e.g., Nelson, Price, and Rountree 2008; Minnis 2011; DeFond and Zhang 2014). While ambiguity is conceptually distinct from information risk, both may lead to similar predictions on the effects on investment judgments.
no-review outcome (Experiment 2).
CHAPTER 4: EXPERIMENTAL METHOD

4.1 PARTICIPANTS

Participants are 122 Masters in accountancy students enrolled in a financial statement analysis course at a large U.S. university. Participants have taken on average 11 accounting courses and 3 finance courses. I use Masters students to match participants’ knowledge to my task (Libby, Bloomfield, and Nelson 2002). In the task, participants evaluate financial information, compute financial ratios, and provide investment-related judgments. The Masters students are familiar with evaluating firms’ financial statements and other financial information, computing financial ratios, and comparing firms’ financial reports and, thus, are an appropriate proxy for nonprofessional investors.

4.2 DESIGN

To test my predictions, I conduct Experiment 1 with a $2 \times 2$ between-subjects design, with review ambiguity (high or low) and access costs (high or low) as my manipulated variables. Participants evaluate two firms within the exercise apparel industry (ActiveCo and MoveCorp) as potential investments. All participants receive the same financial reports for each firm, which include background information, financial highlights, financial statements, and notes to the financial statements. As detailed below, my two manipulations relate to the review correspondence provided on the firms’ financial reports by the “Regulator” (see Appendix B).

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17 I also examine an alternative operationalization for my Low Ambiguity condition in Experiment 2, as discussed in more detail in Chapters 4.4 and 5.3.
4.3 TASK AND PROCEDURES

I conduct my experiment in a computer lab using Qualtrics. Figure 2 presents a timeline with the tasks and procedures for each experimental session. After participants arrive at the computer lab for the experiment, a link randomly assigns them to one of the experimental conditions. I inform participants that they will have access to financial reports for both ActiveCo and MoveCorp and may receive review correspondence between the Regulator and each firm.

Using a ratio computation task similar to Hodge et al. (2004) and Elliott, Hodge, Kennedy, and Pronk (2007), I instruct participants on three financial ratios that industry experts believe are critical to firms in the industry. The ratios are return on assets (net income / total assets), operating profit margin (operating income / net revenue), and SG&A productivity (net revenue / SG&A expenses). I inform participants that they should develop their best estimates of each of the ratio inputs, which should reflect recurring amounts. Participants then respond to three comprehension check questions to ensure they understand the task before proceeding to the firms’ financial reports.

Based on the amounts reported in the firms’ financial statements, MoveCorp’s three financial ratios all appear to be better than ActiveCo’s. Thus, if participants do not adjust the reported numbers, MoveCorp appears to be the better investment. However, MoveCorp’s review correspondence reveals that MoveCorp’s SG&A expenses include a one-time gain of approximately $30 million from the sale of production assets (see Appendix B, Panel E).\(^\text{18}\) If participants adjust MoveCorp’s reported SG&A expenses for the one-time gain, then ActiveCo appears to be the better performing firm.

\(^{18}\) My use of a transitory gain from asset sales in SG&A expenses is motivated by practice (McVay 2006). Other studies use similar transitory items to examine information processing effects (e.g., Brown, Grant, and Winn 2018; Grant 2018).
4.4 REVIEW AMBIGUITY MANIPULATION

I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process, including for ActiveCo (see Appendix B, Panels A and B). There are three possible outcomes for each firm: review with comments, review without comments, or no review. First, before viewing any review correspondence, I inform participants either that the Regulator issues a review letter only when the Regulator reviews a firm’s financial report and has comments, consistent with current SEC practice (High Ambiguity) or for all three possible outcomes (Low Ambiguity). Second, if participants choose to view the review correspondence in the High Ambiguity condition, they learn that the Regulator did not issue a review letter for ActiveCo’s FY 2017 Financial Report, and I remind participants that it is therefore uncertain if (1) the Regulator did not review ActiveCo’s financial report or (2) the Regulator reviewed ActiveCo’s financial report and had no comments. If participants choose to view the review correspondence in the Low Ambiguity condition, ActiveCo’s review letter from the Regulator states, “We reviewed your FY 2017 Financial Report and have no comments on your report.” Compound manipulations like this are common in experimental research when two aspects of a construct vary in the natural setting (Kadous et al. 2003; Kadous et al. 2013; Bol and Leiby 2018). In Experiment 2, I present participants with an alternative Low Ambiguity operationalization, where the Regulator states that it did not review ActiveCo’s financial report. MoveCorp’s review correspondence revealing the one-time gain is the same in all conditions.

4.5 ACCESS COST MANIPULATION

I manipulate access costs by varying the amount of effort required to access any review correspondence. In the High Cost condition, participants must correctly answer 15 simple
algebra problems (addition, subtraction, and multiplication) before they can view each firm’s review correspondence (recall that the review correspondence available to participants for ActiveCo depends on my review ambiguity manipulation). In the *Low Cost* condition, participants can view each firm’s review correspondence without answering any algebra problems. Thus, participants must exert more effort to access the review correspondence in the *High Cost* condition than in the *Low Cost* condition. My manipulation of access costs is consistent with prior psychology studies that operationalize access costs in an abstract manner (e.g., Urbany 1986; Smith et al. 1999; Morgan and Patrick 2013). Finally, in both conditions, participants can also proceed without viewing any review correspondence. I chose not to force participants to view the review correspondence information to minimize interference with their natural processing of information. Forced viewing also raises potential concerns about an experimental demand effect (Hodge et al. 2004). I address potential concerns about self-selection effects in Chapter 5.2.2 below.

4.6 INFORMATION PROCESSING

I measure information processing by examining whether or not participants adjust MoveCorp’s SG&A expenses when calculating MoveCorp’s SG&A productivity ratio. If participants process the review correspondence information, they should make a corresponding adjustment to MoveCorp’s SG&A expenses to account for the one-time gain. I also measure the magnitude of participants’ adjustments to MoveCorp’s SG&A expenses, where larger adjustments reflect increased information processing.

I also measure each component of information processing. I measure acquisition through whether or not participants view the review correspondence. I measure integration through
whether or not participants adjust MoveCorp’s SG&A expenses, *conditional* on viewing MoveCorp’s review correspondence.

### 4.7 COMPARATIVE INVESTMENT JUDGMENTS

I measure participants’ comparative investment judgments through their relative willingness to invest in the firms. I ask participants, “How attractive is an investment in ActiveCo [MoveCorp] stock as part of your diversified portfolio?” Participants respond for each firm on a 101-point scale from 0 (“Very unattractive”) to 100 (“Very attractive”). I also ask participants, “How likely are you to invest in ActiveCo [MoveCorp] stock as part of your diversified portfolio?” Participants respond for each firm on a 101-point scale from 0 (“Very unlikely”) to 100 (“Very likely”). Willingness to invest is the average of these two measures. I measure relative willingness to invest by computing the difference between participants’ willingness to invest in ActiveCo and MoveCorp, where positive (negative) values indicate greater willingness to invest in ActiveCo (MoveCorp).
CHAPTER 5: RESULTS

5.1 MANIPULATION CHECKS

I assess the effectiveness of my review ambiguity manipulation by asking participants, “How certain are you about the outcome of the Regulator’s review of ActiveCo’s FY 2017 Financial Report?” Participants respond on a 101-point scale with endpoints 0 (“Very uncertain”) and 100 (“Very certain”). Participants in the Low Ambiguity condition are more certain about the outcome from the Regulator’s review than participants in the High Ambiguity condition (mean of 64.03 > 55.39; t = 2.18; p = 0.02, one-tailed). I assess the effectiveness of my access cost manipulation by asking participants, “How much effort was required to access the Review Correspondence from the Regulator?” Participants respond on a 101-point scale with endpoints 0 (“Very little effort”) and 100 (“A lot of effort”). Participants in the High Cost condition believe that more effort was required to access the review correspondence than participants in the Low Cost condition (mean of 56.10 > 42.20; t = 3.00; p < 0.01, one-tailed). Collectively, these results suggest that my manipulations of review ambiguity and access costs were successful.

5.2 TESTS OF HYPOTHESES

5.2.1 The effect of review ambiguity and access costs on information processing (Test of H1)

H1 predicts that the effect of review ambiguity on investors’ processing of review correspondence information will strengthen as access costs decrease. My primary measure of information processing is whether or not participants adjust MoveCorp’s SG&A expenses. If

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19 All p-values are two-tailed, unless specified otherwise. I also ask participants how certain they are about the outcome from the Regulator’s review of MoveCorp’s FY 2017 Financial Report, which should not vary between conditions because all participants have access to the same review correspondence for MoveCorp. Consistent with this, I find no differences in participants’ certainty about MoveCorp between the High Ambiguity and Low Ambiguity conditions (64.21 ≈ 64.89; t = 0.19; p = 0.85).
participants process the review correspondence information, they should make a corresponding
adjustment to MoveCorp’s SG&A expenses for the transitory gain.

Table 1, Panel A reports the percentages and proportions of participants that adjust
MoveCorp’s SG&A expenses by condition. Figure 3, Panel A displays the cell means for the
percentage of participants adjusting SG&A expenses by condition. To test H1, I use the
following general linear model with a logit link:

\[ \text{Adjust} = \beta_1 + \beta_2 \text{Ambiguity} + \beta_3 \text{Cost} + \beta_4 \text{Ambiguity} \times \text{Cost} + \epsilon \]

The dependent variable, Adjust, equals 1 if a participant adjusts MoveCorp’s SG&A expenses
and equals 0 otherwise. The independent variables, Ambiguity and Cost, are indicators for my
review ambiguity and access cost conditions. The model also includes the interaction between
the Ambiguity and Cost variables.

Table 1, Panel B presents results from the general linear model, which reveals an
interaction of review ambiguity and access costs on information processing (p = 0.06). Table 1,
Panel C reports follow-up tests using Fisher’s Exact Test. When access costs are relatively low,
participants’ information processing increases with lower review ambiguity (p = 0.04, one-
tailed). In contrast, when access costs are relatively high, participants’ information processing
does not vary with review ambiguity (p = 0.61).

I also examine participants’ information processing by measuring the magnitude of
participants’ adjustments to MoveCorp’s SG&A expenses.\(^{20}\) Larger adjustments to MoveCorp’s
SG&A expenses reflect greater processing of MoveCorp’s review correspondence information.\(^{21}\)

\(^{20}\) Using SG&A adjustment amounts as my dependent variable violates the assumption of normality
for the two-way ANOVA. Thus, I present SG&A adjustment amounts as my secondary measure of information processing.
However, research indicates that ANOVAs are generally robust to violations of normality (Maxwell and Delaney
2004). Further, because results are inferentially similar between my two measures of information processing,
violation of the normality assumption seems to have a limited effect on the interpretability of my results.

\(^{21}\) I use the magnitude of participants’ adjustments, rather than the signed adjustments, because some participants
correctly adjust MoveCorp’s SG&A expenses but do so in the wrong direction (i.e., decreasing rather than
Table 2 reports results for my secondary information processing measure, which are inferentially similar to results for my primary measure discussed above.

Consistent with H1, these results show that review ambiguity and access costs have an interactive effect on investors’ processing of review correspondence information. Specifically, investors process review correspondence information to a greater extent as review ambiguity decreases, but only when access costs are relatively low. Importantly, these results suggest that, rather than improving processing of review correspondence, reducing access costs may actually have harmful effects on investors’ processing, unless accompanied by lower review ambiguity.

5.2.2 Acquisition, integration, and self-selection analysis

To provide further insights into investors’ information processing, I also separately examine the joint effects of review ambiguity and access costs on investors’ acquisition and integration of review correspondence information. I measure acquisition through whether or not participants view MoveCorp’s review correspondence. Consistent with expectations, results (untabulated) reveal a significant main effect of access costs on acquisition of review correspondence information, with acquisition higher when access costs are relatively low versus relatively high (96.7% > 62.3%; \( \chi^2 (1; n = 122) = 14.16; p < 0.01 \)). However, there is no interaction of review ambiguity and access costs on acquisition (\( \chi^2 (1; n = 122) = 0.02; p = 0.88 \)).

I measure integration through whether or not participants adjust MoveCorp’s SG&A expenses, conditional on viewing MoveCorp’s review correspondence. Table 3, Panel A reports the percentages and proportions of participants that adjust MoveCorp’s SG&A expenses by increasing their estimates of SG&A expenses. I presume that the incorrect sign of the adjustments is in error and attributable to confusion about adjusting an expense line item for a gain. Results are inferentially similar when I exclude participants that adjust MoveCorp’s SG&A expenses in the wrong direction.
condition. Figure 3, Panel C displays the cell means for the percentage of participants adjusting SG&A expenses by condition. Table 3, Panel B presents results from the same general linear model used to test H1, which reveals an interaction of review ambiguity and access costs on information integration (p = 0.10). The standard ANOVA interaction (+1, -1, +1, -1) is the most appropriate interaction contrast for my information processing and willingness to invest measures. However, it is a relatively weak test for integration, where theory supports a more specific choice of contrast weights (Buckless and Ravenscroft 1990; Guggenmos, Piercey, and Agoglia 2018). Specifically, the theory underlying H1 suggests investors’ integration of review correspondence information will increase when access costs are relatively high or when review ambiguity is relatively low, and integration will be lowest when access costs are relatively low and review ambiguity is relatively high. Thus, I also examine the interaction of review ambiguity and access costs on investors’ integration using contrast weights of -3 for the High Ambiguity / Low Cost condition and +1 for each of the other three conditions (Low Ambiguity / Low Cost, High Ambiguity / High Cost, and Low Ambiguity / High Cost). Table 3, Panel C presents results from the planned contrast, which are statistically significant (p < 0.01).22

Finally, Table 3, Panel D reports follow-up tests using Fisher’s Exact Test. When access costs are relatively low, participants’ information integration increases with lower review ambiguity (p = 0.04, one-tailed). In contrast, when access costs are relatively high, participants’ information integration does not vary with review ambiguity (p = 0.73).

Because I observe a main effect of access costs on acquisition, one potential concern is that participants acquiring MoveCorp’s review correspondence in the High Cost conditions may

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22 Visual fit is confirmed with the plot of cell means in Figure 3, Panel C. An approximation of a semiomnibus test confirms that residual between-cells variance is insignificant after accounting for the planned contrast (F_{2,93} = 0.29; p = 0.75), and only 7.1% of the between-cells variance is not explained by the contrast (Guggenmos et al. 2018).
be different (e.g., more motivated, knowledgeable, etc.) from those acquiring MoveCorp’s review correspondence in the Low Cost conditions and these differences, rather than my manipulations, may be driving my results. To address this self-selection concern, I examine whether participants viewing MoveCorp’s review correspondence differ across a variety of demographic and performance measures (Hodge et al. 2004), including financial expertise, risk preferences, and other demographic variables. None of the demographic or performance measures differs across my four conditions or between my High Cost and Low Cost conditions. In addition, I measure the time spent on the task (excluding time spent on the review correspondence screen) and use this measure as a proxy for motivation. Again, the motivation measure does not differ across my four conditions or between my High Cost and Low Cost conditions. This additional analysis helps mitigate concerns than self-selection is driving my results, rather than my manipulations.

5.2.3 The effect of review ambiguity and access costs on investment judgments (Test of H2)

H2 predicts that, as access costs decrease, investors’ comparative investment judgments will reflect review correspondence information to a greater extent as review ambiguity decreases. I measure investors’ comparative investment judgments through participants’ relative willingness to invest. Willingness to invest for each firm is equal to the average of participants’ ratings of (1) the attractiveness of an investment in the firm and (2) the likelihood that they would invest in the firm. Relative willingness to invest is the difference in participants’ willingness to invest in ActiveCo and MoveCorp. In my experiment, ActiveCo is the better

23 Demographic variables include annual report familiarity, SEC familiarity, financial statement analysis experience, investment experience, accounting courses taken, and finance courses taken.
24 The Cronbach’s alphas for my willingness to invest measures are 0.83 (ActiveCo) and 0.93 (MoveCorp), which suggests they are capturing the same willingness to invest construct.
performing firm once SG&A expenses are adjusted for MoveCorp’s transitory gain. Positive
(negative) values correspond to greater willingness to invest in ActiveCo (MoveCorp) and, thus,
investors’ comparative investment judgments reflecting the review correspondence information
to a greater (lesser) extent.

Table 4, Panel A reports means, standard errors, and cell sizes for my relative willingness
to invest measures by condition. Figure 4 displays the cell means of relative willingness to invest
by condition. Table 4, Panel B reports results from a two-way ANOVA with relative willingness
to invest as the dependent variable and the main and interactive effects of review ambiguity and
access costs as independent variables. Consistent with H2, results show that review ambiguity
and access costs have an interactive effect on relative willingness to invest judgments (p = 0.07).

Table 4, Panel C reports follow-up simple effects tests. When access costs are relatively
low, relative willingness to invest increases as review ambiguity decreases (p = 0.03, one-tailed).
In contrast, when access costs are relatively high, relative willingness to invest does not vary
between review ambiguity conditions (p = 0.42). Consistent with H2, these results show that, as
access costs decrease, investors’ comparative investment judgments reflect review
correspondence information to a greater extent as review ambiguity decreases. Further, investors
are better able to evaluate and compare firms, leading to higher quality judgments.

5.2.4 Process evidence: The indirect effect of review correspondence information processing on
investors’ comparative investment judgments

Results for H2 are consistent with increased processing of review correspondence
information improving investors’ comparative investment judgments. To provide further
evidence on the underlying process, I perform a moderated mediation path analysis. Figure 5
presents the moderated mediation path model, using review ambiguity as my predictor (+1 for Low Ambiguity and -1 for High Ambiguity), access costs as my moderator (+1 for High Cost and -1 for Low Cost), and relative willingness to invest as my dependent variable. My mediating variable is information processing, which is the magnitude of participants’ adjustments to SG&A expenses. Consistent with review correspondence allowing investors to better evaluate and compare investment alternatives, I expect an indirect effect of review ambiguity on relative willingness to invest via information processing when access costs are relatively low but not when access costs are relatively high.

To test for conditional indirect effects, I construct 95% bias-corrected confidence intervals with 5,000 bootstrapped resamples of data with replacement (Hayes 2013). A statistically significant indirect effect requires that zero not appear within the confidence interval. Figure 5, Panel A presents results for the High Cost condition, which reveals that the conditional indirect effect is not significant (95% bias-corrected confidence interval: (-2.29, 1.08)). Figure 5, Panel B presents results for the Low Cost condition, which reveals that the conditional indirect effect is significant (95% bias-corrected confidence interval: (0.19, 4.47)). The difference between the two conditions is also significant (95% bias-corrected confidence interval: (-5.58, -0.14)). Finally, neither of the conditional direct effects of review ambiguity on relative willingness to invest is significant (both p > 0.10). Collectively, these results show that investors’ processing of review correspondence mediates the joint effects of review ambiguity and access costs on investors’ relative willingness to invest, providing further support for H2.

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25 Moderated mediation path analysis in PROCESS (Hayes 2013) requires a continuous variable for the mediator. Thus, I use the magnitude of participants’ adjustments to SG&A expenses for mediation purposes.

26 For visual simplicity, I present results for the High Cost and Low Cost conditions in separate panels of Figure 5. However, the models are run simultaneously using the PROCESS macro in SPSS (Hayes 2013).
5.2.5 Supplemental analysis

To provide additional insights, I also examine how review ambiguity and access costs jointly influence investors’ judgments regarding reporting quality, confidence, financial performance, and management credibility.

5.2.5.1 Reporting quality judgments

First, I examine how review ambiguity and access costs influence investors’ perceptions of financial reporting quality—specifically, how faithfully represented financial information is in the firms’ financial reports. Greater processing of the review correspondence should lead participants to view ActiveCo as the higher quality reporter. Consistent with the FASB’s definition of faithful representation (FASB 2010), I inform participants, “Financial information is faithfully represented in a financial report when the information is complete, neutral, and free from error.” I then ask participants, “How faithfully represented is the financial information in ActiveCo’s [MoveCorp’s] FY 2017 Financial Report?” Participants respond for each firm on a 101-point scale from 0 (“Very low”) to 100 (“Very high”). I measure relative reporting quality judgments by calculating the difference between participants’ responses for ActiveCo and MoveCorp. Positive (negative) values correspond to perceptions that ActiveCo’s (MoveCorp’s) financial information is more faithfully represented.

Results (untabulated) reveal that review ambiguity and access costs have an interactive effect on investors’ reporting quality judgments. The two-way ANOVA interaction of review ambiguity and access costs on relative reporting quality judgments is significant (F_{1,118} = 8.88; p < 0.01). Follow-up simple effects tests are also consistent with expectations. When access costs are relatively low, relative reporting quality judgments increase with lower review ambiguity (t =
3.40; p < 0.01, one-tailed). In contrast, when access costs are relatively high, review ambiguity has no effect on relative reporting quality judgments (t = 0.81; p = 0.42).

5.2.5.2 Confidence in investment evaluations

I also examine the interactive effects of review ambiguity and access costs on investors’ confidence in their investment evaluations. The FASB suggests that greater financial reporting knowledge should increase investors’ confidence when making investment judgments (FASB 2010). I measure confidence by asking participants, “How confident are you in your ability to evaluate ActiveCo [MoveCorp] as a potential investment?” Participants respond for each firm on a 101-point scale from 0 (“Not at all confident”) to 100 (“Very confident”). Relative confidence is the difference in participants’ confidence in their evaluations of ActiveCo and MoveCorp. Positive (negative) values correspond to higher confidence in evaluations of ActiveCo (MoveCorp).

Results (untabulated) reveal that review ambiguity and access costs have an interactive effect on investors’ confidence in their investment evaluations. The two-way ANOVA interaction of review ambiguity and access costs on relative confidence judgments is significant (F_{1,118} = 18.57; p < 0.01). Follow-up simple effects tests are also consistent with expectations. When access costs are relatively low, relative confidence increases with lower review ambiguity (t = 4.56; p < 0.01, one-tailed). In contrast, when access costs are relatively high, review ambiguity has no effect on relative confidence (t = 1.53; p = 0.13).
5.2.5.3 Financial performance judgments

I also examine participants’ relative financial performance judgments. As with relative willingness to invest, greater processing of review correspondence information should lead participants to view ActiveCo as the better performing firm. I ask participants, “How would you rate the financial performance of ActiveCo [MoveCorp] for FY 2017?” Participants respond for each firm on a 101-point scale from 0 (“Very weak”) to 100 (“Very strong”). I measure relative financial performance by calculating the difference between participants’ financial performance judgments for ActiveCo and MoveCorp. Positive (negative) values correspond to higher perceived financial performance for ActiveCo (MoveCorp).

Results (untabulated) reveal that review ambiguity and access costs jointly influence relative financial performance judgments. Specifically, the two-way ANOVA interaction of review ambiguity and access costs on relative financial performance is significant ($F_{1,118} = 3.42; p = 0.07$). Follow-up simple effects tests are also consistent with expectations. When access costs are relatively low, participants’ relative financial performance judgments increase with lower review ambiguity ($t = 1.76; p = 0.04$, one-tailed). However, when access costs are relatively high, participants’ relative financial performance judgments do not vary with review ambiguity ($t = 0.85; p = 0.40$).

5.2.5.4 Management credibility judgments

Finally, I examine participants’ perceptions of management credibility. Greater processing of the review correspondence should lead participants to view MoveCorp’s management as relatively less credible, since MoveCorp did not provide details on the transitory gain in its FY 2017 Financial Report. I measure credibility by asking participants about the
competence and trustworthiness of each firm’s management. Specifically, I ask participants, “How competent is the management of ActiveCo [MoveCorp]?” Participants respond for each firm on a 101-point scale from 0 (“Not at all competent”) to 100 (“Very competent”). I also ask participants, “How trustworthy is the management of ActiveCo [MoveCorp]?” Participants respond for each firm on a 101-point scale from 0 (“Not at all trustworthy”) to 100 (“Very trustworthy”). Credibility is the average of these two measures. The Cronbach’s alphas for my credibility measures is 0.90 (ActiveCo) and 0.76 (MoveCorp), suggesting they are capturing the same underlying construct. I measure relative credibility by calculating the difference between participants’ credibility judgments for ActiveCo and MoveCorp. Positive (negative) values correspond to perceptions that ActiveCo’s (MoveCorp’s) management is more credible.

Results (untabulated) reveal that review ambiguity and access costs jointly influence relative credibility judgments. Specifically, the two-way ANOVA interaction of review ambiguity and access costs on relative credibility judgments is significant ($F_{1,118} = 6.08; p = 0.02$). Follow-up simple effects tests are also consistent with expectations. When access costs are relatively low, participants’ relative credibility judgments increase with lower review ambiguity ($t = 2.31; p = 0.01$, one-tailed). However, when access costs are relatively high, participants’ relative credibility judgments do not vary with review ambiguity ($t = 1.17; p = 0.24$).

5.3 EXPERIMENT 2: ALTERNATIVE LOW AMBIGUITY OPERATIONALIZATION

Experiment 2 uses an alternative operationalization for the Low Ambiguity condition, which is identical to the operationalization in Experiment 1 except for ActiveCo’s review letter. Rather than the review letter stating that the Regulator reviewed and had no comments on
ActiveCo’s financial report, ActiveCo’s review letter states, “We did not review your FY 2017 Financial Report.” All other experimental materials are identical to Experiment 1.

The purpose of my alternative operationalization is to provide corroborating evidence on the effects of reducing review ambiguity on investors’ processing and investment judgments. As previously noted, my manipulation of review ambiguity is a compound manipulation of overall review ambiguity and ActiveCo’s review outcome. The Low Ambiguity operationalization in Experiment 1 and Experiment 2 reduces overall review ambiguity for investors. The only difference between the two operationalizations is the nature of ActiveCo’s review outcome (no comments or no review, respectively). Importantly, ActiveCo’s financial information, used in calculating ActiveCo’s financial ratios, is constant across conditions. However, it is plausible investors may perceive ActiveCo’s no-comments review outcome in Experiment 1 as a positive signal about ActiveCo. Thus, I use the alternative Low Ambiguity operationalization in Experiment 2 to confirm that overall review ambiguity is driving the results in Experiment 1, rather than the potential positive signal about ActiveCo.

I use an additional 60 Masters students enrolled in the same financial statement analysis course as participants in Experiment 1. Participants are randomly assigned to one of two access cost conditions, High Cost or Low Cost. I then reexamine H1 and H2 with my alternative Low Ambiguity operationalization.27

Table 5, Panel A reports the percentages and proportions of investors adjusting MoveCorp’s SG&A expenses in each condition. Figure 6, Panel A presents cell means by

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27 For purposes of reexamining H1 and H2, I use the same High Ambiguity conditions from Experiment 1. Because my alternative Low Ambiguity conditions were conducted after Experiment 1, participants were not randomly assigned among these four experimental conditions. Thus, these results only partially reflect a 2 × 2 between-subjects design. However, participants were randomly assigned between the two alternative Low Ambiguity conditions (High Cost and Low Cost).
condition. Table 5, Panel B presents results from the general linear model with a logit link, which reveals an interactive effect of review ambiguity and access costs on information processing (p = 0.08). Table 5, Panel C presents follow-up tests using Fisher’s Exact Test. Consistent with H1, when access costs are relatively low, participants’ processing of review correspondence information increases with lower review ambiguity (p = 0.03, one-tailed). In contrast, when access costs are relatively high, participants’ processing of review correspondence information does not vary with review ambiguity (p = 0.80).

Table 6 reports results for investors’ integration of review correspondence information for Experiment 2, which are similar to Experiment 1. Specifically, Table 6, Panel C presents results from the planned contrast using the same contrast weights as in Experiment 1. The planned contrast is statistically significant (p < 0.01). Table 6, Panel D presents follow-up tests using Fisher’s Exact Test. When access costs are relatively low, participants integrate review correspondence information to a greater extent as review ambiguity decreases (p = 0.04, one-tailed). However, review ambiguity has no effect on integration when access costs are relatively high (p = 1.00). Collectively, these results provide corroborating evidence that the information processing effects observed in both experiments are driven by a reduction in overall review ambiguity.

While results for H1 are inferentially similar to Experiment 1, results for H2 differ with my alternative Low Ambiguity operationalization and indicate that investors’ comparative investment judgments depend not only on overall review ambiguity but also the nature of ActiveCo’s review outcome. Table 7, Panel A reports means, standard errors, and cell sizes for

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28 Visual fit is confirmed with the plot of cell means in Figure 6, Panel B. An approximation of a semiomnibus test confirms that residual between-cells variance is insignificant after accounting for the planned contrast (F_{2,90} = 0.24; p = 0.79), and only 5.6% of the between-cells variance is not explained by the contrast (Guggenmos et al. 2018).
relative willingness to invest judgments by condition. Figure 6, Panel C presents cell means by condition. Table 7, Panel B reports results from my two-way ANOVA. Results show that review ambiguity and access costs have an interactive effect on relative willingness to invest (p < 0.01), but in a different manner than in Experiment 1. Table 7, Panel C reports follow-up simple effects tests, which differ in important ways from my primary results for H2. Specifically, when access costs are relatively low, review ambiguity has no effect on investors’ relative willingness to invest judgments (p = 0.12, one-tailed). In contrast, when access costs are relatively high, relative willingness to invest judgments are significantly greater when review ambiguity is higher versus lower (p = 0.01).

Further analysis (untabulated) reveals that the different results for H2 with the alternative Low Ambiguity operationalization are attributable to investors becoming relatively less willing to invest in ActiveCo when the Regulator reveals a no-review outcome, rather than a no-comments outcome (mean relative willingness to invest -3.14 < 2.11; t = 2.01; p = 0.05). Recall that ActiveCo’s financial information, which is the only information needed to calculate ActiveCo’s financial ratios, is constant across conditions. Nevertheless, investors become less willing to invest in ActiveCo once the Regulator reveals that it did not review ActiveCo’s financial report. This result is consistent with disclosure of ActiveCo’s no-review outcome increasing perceived ambiguity about ActiveCo as a firm. Thus, consistent with ambiguity aversion literature (e.g., Ellsberg 1961; Camerer and Weber 1992), investors appear to respond to the no-review outcome by choosing to avoid investing in ActiveCo. In sum, Experiment 2 results indicate that investors’ information processing depends only on a reduction in overall review ambiguity. In contrast, investors’ comparative investment judgments also depend on the nature of the revealed outcome, highlighting a potential cost to reducing ambiguity about no-review outcomes.
CHAPTER 6: CONCLUSION

In this study, I examine how two informational characteristics of SEC review correspondence—review ambiguity and access costs—jointly influence investors’ information processing and investment judgments. Results show that investors integrate information to a greater extent as review ambiguity decreases, but only when access costs are relatively low. Experiment 2 results confirm these findings and suggest that the information processing effects result from a reduction in overall review ambiguity. In contrast, results from my two experiments suggest that the effects on investors’ comparative investment judgments also depend on the nature of ActiveCo’s review outcome (no comments or no review).

My study has several limitations that provide opportunities for further research. First, I focus on ambiguity in the information environment arising from the SEC’s lack of transparency about review outcomes. However, there are a variety of other sources of ambiguity for investors with review correspondence (e.g., firm selection, depth of review, etc.) and financial information more generally (Williams 2015). Future research can examine how these other sources of ambiguity may differentially influence investors. Second, it is possible that investors may interpret “no comment” letters as an implicit endorsement of the firm’s reporting and then might be less scrupulous when analyzing firm financial information. Future research can examine whether reducing review ambiguity in these circumstances may impair investors’ processing of firm financial information. Finally, I focus on a setting in which both firm financial reports and review correspondence are available to investors before they make their investment judgments. However, in practice, investors may encounter review correspondence for different firms at different times, including after making investment decisions or on a prospective basis. Future
research can examine how investors’ processing and judgments may differ in these other investment evaluation settings.

Overall, my study contributes to prior literature and practice in several important ways. I contribute to research on reporting quality indicators and SEC review correspondence (e.g., Dechow et al. 2016; Johnston and Petacchi 2017; Ryans 2018), ambiguity (e.g., Zimbelman and Waller 1999; Williams 2015; Winchel 2015; White 2017), and access costs and effort (e.g., Nelson and Tayler 2007; Smith et al. 2016; Grant 2018). Further, from a practical perspective, my results underscore the significance of evaluating informational characteristics jointly rather than independently, which is important for regulators and other standard-setters as they explore ways to increase the accessibility and usefulness of information for investors.
**FIGURES AND TABLES**

**Figure 1: Framework of Reporting Quality Indicators**

<table>
<thead>
<tr>
<th>Source</th>
<th>AAERs / Enforcement Actions</th>
<th>Comment Letter Correspondence</th>
<th>Restatements</th>
<th>Internal Control Weakness Disclosures / Opinions</th>
<th>Discussion of Critical Audit Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SEC prosecution of securities law / regulation violations</td>
<td>SEC review of firm’s periodic reports and other public disclosures</td>
<td>Correction of misstated financial reports prompted by firm, auditor, or regulator</td>
<td>Management evaluation and certification of firm’s internal controls</td>
<td>Audit areas involving especially challenging, subjective, or complex auditor judgments</td>
</tr>
<tr>
<td></td>
<td>Reporting quality, disclosure credibility, earnings quality, audit quality, accounting fraud (e.g., Feroz et al. 1991; Dechow et al. 2010; DeFond and Zhang 2014)</td>
<td>Reporting quality, regulatory oversight, disclosure credibility (e.g., Gietzmann and Sidro 2013; Dechow et al. 2016; Cunningham et al. 2017; Johnston and Petacchi 2017)</td>
<td>Reporting quality, disclosure quality, earnings quality, audit quality, managerial credibility (e.g., Hribar and Jenkins 2004; Palmrose et al. 2006; Dechow et al. 2010; DeFond and Zhang 2014)</td>
<td>Reporting quality, reporting credibility, reporting oversight quality, accounting quality, earnings quality (e.g., Ogneva et al. 2007; Beneish et al. 2008; Hammersley et al. 2008; Dechow et al. 2010; Cheng et al. 2013)</td>
<td>Reporting quality, informational value of auditor report (e.g., Elliott et al. 2017; Gutierrez et al. 2017, Lennox et al. 2017)</td>
</tr>
<tr>
<td></td>
<td>Reporting Quality Signal</td>
<td>Direct signal of severe quality issues</td>
<td>Direct signal of wide array of quality issues</td>
<td>Direct signal of severe quality issues</td>
<td>Indirect signal of wide array of potential quality issues</td>
</tr>
<tr>
<td></td>
<td>Quality Variation Reflected</td>
<td>Moderate</td>
<td>High</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>Moderate (certification required quarterly)</td>
</tr>
<tr>
<td></td>
<td>Accessibility</td>
<td>Moderate</td>
<td>Low</td>
<td>High</td>
<td>High (once effective)</td>
</tr>
<tr>
<td></td>
<td>Interpretability</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Moderate (indirect)</td>
</tr>
<tr>
<td></td>
<td>Timeliness</td>
<td>Low</td>
<td>Moderate-Low</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

43
**Figure 2**: Experimental Timeline

**Instructions, Ratio Computation Task, and Financial Reports**
- Arrive at computer lab and review background information
- Ratio computation task training
- Review FY 2017 financial reports for ActiveCo and MoveCorp

**Review Correspondence and Manipulations**
- Learn that Regulator issues review correspondence for all three possible outcomes (Low Ambiguity) or only one of three outcomes (High Ambiguity)
- Choose whether to access review correspondence for ActiveCo and MoveCorp (for each, must first answer 15 algebra questions (High Cost) or 0 algebra questions (Low Cost))
- If choose to access, view review correspondence for ActiveCo and MoveCorp (ActiveCo’s review letter states Regulator has no comments (Low Ambiguity) or no review letter (High Ambiguity))

**Dependent Measures and Post-Experimental Questionnaire**
- Provide financial ratio inputs and investment judgments
- Post-Experimental Questionnaire, manipulation checks, and demographics
- Session ends

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Figure 2 graphically depicts the timeline of my experimental sessions.
Figure 3: Observed Effects of Review Ambiguity and Access Costs on Information Processing

Panel A: Information Processing (Percentage Adjusting Expenses) (H1)

Panel B: Information Processing (Magnitude of Expense Adjustments) (H1)
Figure 3 (continued)

Panel C: Information Integration (Percentage Adjusting Expenses)

Figure 3 graphically depicts my observed mean values for investors’ information processing. Panel A presents results for information processing based on the percentage of investors adjusting SG&A expenses, and Panel B presents results for information processing based on SG&A expense adjustment amounts. Panel C presents results for information integration based on the percentage of investors adjusting SG&A expenses, conditional on viewing MoveCorp’s review correspondence. See Tables 1–3 for descriptive statistics and analysis.
Figure 4: Observed Effects of Review Ambiguity and Access Costs on Relative Willingness to Invest Judgments (H2)

Relative willingness to invest is the difference in willingness to invest in ActiveCo and MoveCorp. Positive (negative) values correspond to greater relative willingness to invest in ActiveCo (MoveCorp). See Table 4 for descriptive statistics and analysis.
Figure 5: Moderated Mediation Path Analysis: The Effects of Review Ambiguity (Conditional on Access Costs) on Relative Willingness to Invest Via Information Processing

Panel A: High Cost Conditions

![Diagram of Moderated Mediation Path Analysis for High Cost Conditions]

Path $a$: $\beta = 1.86$

Path $b$: $\beta = 0.59^{***}$

Path $c'$: $\beta = -1.34$

Path $c$: $\beta = -1.94$

95% CI for Indirect Effect $(ab)$: (-2.29, 1.08)

Panel B: Low Cost Conditions

![Diagram of Moderated Mediation Path Analysis for Low Cost Conditions]

Path $a$: $\beta = 5.21^{*}$

Path $b$: $\beta = 0.35^{***}$

Path $c'$: $\beta = 1.46$

Path $c$: $\beta = 3.61^{**}$

95% CI for Indirect Effect $(ab)$: (0.19, 4.47)

Figure 5 graphically depicts my moderated mediation path analysis. For visual simplicity, I present results separately for the High Cost and Low Cost conditions, even though the model is calculated simultaneously for all conditions using the PROCESS macro in SPSS (Hayes 2013). The review ambiguity variable equals -1 (1) for the High Ambiguity (Low Ambiguity) condition. The access cost variable equals -1 (1) for the Low Cost (High Cost) condition. Information processing is the magnitude of the adjustment to MoveCorp’s SG&A expenses, and relative willingness to invest is the difference between an investor’s willingness to invest in ActiveCo and MoveCorp. To test for indirect effects, I construct 95% bias-corrected confidence intervals for the product of paths $a$ and $b$. I use 5,000 bootstrapped resamples of data with replacement (Hayes 2013). A statistically significant indirect effect requires that zero not appear within the confidence interval. Path $c'$ reflects the direct effect of review ambiguity on relative willingness to invest, while path $c$ reflects the total effect (indirect effects plus direct effects).

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$
Figure 6: Observed Effects of Review Ambiguity (Alternative Operationalization) and Access Costs on Information Processing and Relative Willingness to Invest

Panel A: Information Processing (Reexamination of H1)

Panel B: Information Integration
Panel C: Relative Willingness to Invest Judgments (Reexamination of H2)

Figure 6 graphically depicts my observed mean values for investors’ information processing for H1, information integration, and comparative investment judgments for H2, using my alternative Low Ambiguity manipulation. Panel A presents results for information processing (whether or not participants adjust MoveCorp’s SG&A expenses). Panel B presents results for information integration (whether or not participants adjust MoveCorp’s SG&A expenses, conditional on viewing MoveCorp’s review correspondence). Panel C presents results for relative willingness to invest (the difference in willingness to invest in ActiveCo and MoveCorp, where positive (negative) values correspond to greater relative willingness to invest in ActiveCo (MoveCorp)). See Tables 5–7 for descriptive statistics and analysis.
<table>
<thead>
<tr>
<th>Review Ambiguity</th>
<th>Access Costs</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>High</td>
<td>48%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>[15 / 31]</td>
<td>[9 / 30]</td>
</tr>
<tr>
<td>Low</td>
<td>40%</td>
<td>55%</td>
</tr>
<tr>
<td></td>
<td>[12 / 30]</td>
<td>[17 / 31]</td>
</tr>
<tr>
<td>Column Means</td>
<td>44%</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td>[27 / 61]</td>
<td>[26 / 61]</td>
</tr>
</tbody>
</table>

Panel B: General Linear Model (Logit Link) Results — Adjustments to SG&A Expenses

\[
\text{Adjust} = \beta_1 + \beta_2 \text{Ambiguity} + \beta_3 \text{Cost} + \beta_4 \text{Ambiguity} \times \text{Cost} + \epsilon
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>$\chi^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguity</td>
<td>1</td>
<td>0.88</td>
<td>0.35</td>
</tr>
<tr>
<td>Cost</td>
<td>1</td>
<td>0.06</td>
<td>0.81</td>
</tr>
<tr>
<td>Ambiguity by Cost</td>
<td>1</td>
<td>3.43</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Panel C: Follow-Up Tests Using Fisher’s Exact Test: Percentage Adjusting to SG&A Expenses

<table>
<thead>
<tr>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Ambiguity / Low Cost &gt; High Ambiguity / Low Cost</td>
<td>1</td>
</tr>
<tr>
<td>Low Ambiguity / High Cost vs. High Ambiguity / High Cost</td>
<td>1</td>
</tr>
<tr>
<td>High Ambiguity / High Cost vs. High Ambiguity / Low Cost</td>
<td>1</td>
</tr>
<tr>
<td>Low Ambiguity / High Cost vs. Low Ambiguity / Low Cost</td>
<td>1</td>
</tr>
</tbody>
</table>

This table presents descriptive statistics, general linear model results, and follow-up tests using Fisher’s Exact Test for the percentage of participants that adjust MoveCorp’s SG&A expenses in each condition. I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process. I manipulate access costs by varying the amount of effort required to access review correspondence.

*One-tailed equivalent given directional prediction (all other p-values are two-tailed).
Table 2
How Review Ambiguity and Access Costs Affect Information Processing (Magnitude of SG&A Expense Adjustments) (H1)


<table>
<thead>
<tr>
<th>Review Ambiguity</th>
<th>Access Costs</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>High</td>
<td>13.18</td>
<td>8.33</td>
</tr>
<tr>
<td></td>
<td>[2.59]</td>
<td>[2.44]</td>
</tr>
<tr>
<td></td>
<td>n = 31</td>
<td>n = 30</td>
</tr>
<tr>
<td>Low</td>
<td>10.27</td>
<td>18.75</td>
</tr>
<tr>
<td></td>
<td>[2.89]</td>
<td>[4.76]</td>
</tr>
<tr>
<td></td>
<td>n = 30</td>
<td>n = 31</td>
</tr>
<tr>
<td>Column Means</td>
<td>11.75</td>
<td>13.62</td>
</tr>
<tr>
<td></td>
<td>[2.76]</td>
<td>[2.76]</td>
</tr>
<tr>
<td></td>
<td>n = 61</td>
<td>n = 61</td>
</tr>
</tbody>
</table>

Panel B: Analysis of Variance (ANOVA) Results

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguity</td>
<td>430.80</td>
<td>1</td>
<td>430.80</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>100.49</td>
<td>1</td>
<td>100.49</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>Ambiguity by Cost</td>
<td>1356.31</td>
<td>1</td>
<td>1356.31</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>39760.91</td>
<td>118</td>
<td>336.96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Panel C: Follow-Up Simple Effects Tests

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Low Ambiguity / Low Cost &gt; High Ambiguity / Low Cost</em></td>
<td>59</td>
<td>1.93</td>
<td>0.03*</td>
</tr>
<tr>
<td><em>Low Ambiguity / High Cost vs. High Ambiguity / High Cost</em></td>
<td>59</td>
<td>0.75</td>
<td>0.46</td>
</tr>
<tr>
<td><em>High Ambiguity / High Cost vs. High Ambiguity / Low Cost</em></td>
<td>59</td>
<td>1.36</td>
<td>0.18</td>
</tr>
<tr>
<td><em>Low Ambiguity / High Cost vs. Low Ambiguity / Low Cost</em></td>
<td>59</td>
<td>1.51</td>
<td>0.14</td>
</tr>
</tbody>
</table>

This table presents descriptive statistics, an ANOVA model, and follow-up simple effects tests for participants’ adjustment amounts for SG&A expenses. I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process. I manipulate access costs by varying the amount of effort required to access review correspondence.

*One-tailed equivalent given directional prediction (all other p-values are two-tailed).
### Table 3
How Review Ambiguity and Access Costs Affect Information Integration (Percentage Adjusting SG&A Expenses)

**Panel A: Descriptive Statistics—Percentage [Proportions] of Investors that Adjust MoveCorp’s SG&A Expenses**

<table>
<thead>
<tr>
<th>Review Ambiguity</th>
<th>Access Costs</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>High</td>
<td>70%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>14 / 20</td>
<td>9 / 29</td>
</tr>
<tr>
<td>Low</td>
<td>61%</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>11 / 18</td>
<td>17 / 30</td>
</tr>
<tr>
<td>Column Means</td>
<td>66%</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td>25 / 38</td>
<td>26 / 59</td>
</tr>
</tbody>
</table>

**Panel B: General Linear Model (Logit Link) Results —Adjustments to SG&A Expenses**

\[
\text{Adjust} = \beta_1 + \beta_2 \text{Ambiguity} + \beta_3 \text{Cost} + \beta_4 \text{Ambiguity} \times \text{Cost} + \epsilon
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>(\chi^2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguity</td>
<td>1</td>
<td>0.59</td>
<td>0.44</td>
</tr>
<tr>
<td>Cost</td>
<td>1</td>
<td>4.35</td>
<td>0.04</td>
</tr>
<tr>
<td>Ambiguity by Cost</td>
<td>1</td>
<td>2.78</td>
<td>0.10</td>
</tr>
</tbody>
</table>

**Panel C: Planned Contrast: Weight of -3 for High Ambiguity / Low Cost and +1 for Low Ambiguity / Low Cost, High Ambiguity / High Cost, and Low Ambiguity / High Cost**

<table>
<thead>
<tr>
<th>Contrast</th>
<th>df</th>
<th>(\chi^2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>7.63</td>
<td>&lt; 0.01</td>
</tr>
</tbody>
</table>

**Panel D: Follow-Up Tests Using Fisher’s Exact Test: Percentage Adjusting to SG&A Expenses**

<table>
<thead>
<tr>
<th>Test Description</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Ambiguity / Low Cost &gt; High Ambiguity / Low Cost</td>
<td>1</td>
<td>0.04*</td>
</tr>
<tr>
<td>Low Ambiguity / High Cost vs. High Ambiguity / High Cost</td>
<td>1</td>
<td>0.73</td>
</tr>
<tr>
<td>High Ambiguity / High Cost vs. High Ambiguity / Low Cost</td>
<td>1</td>
<td>0.01</td>
</tr>
<tr>
<td>Low Ambiguity / High Cost vs. Low Ambiguity / Low Cost</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>

This table presents descriptive statistics, general linear model results, planned contrast results, and follow-up tests using Fisher’s Exact Test for the percentage of participants that adjust MoveCorp’s SG&A expenses in each condition, conditional on participants viewing MoveCorp’s review correspondence. I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process. I manipulate access costs by varying the amount of effort required to access review correspondence. An approximation of a semiomnibus test confirms that residual between-cells variance is not significant after accounting for the planned contrast in Panel C (\(F_{2,93} = 0.29\); \(p = 0.75\)), and only 7.1% of the between-cells variance is not explained by the contrast (Guggenmos et al. 2018).

*One-tailed equivalent given directional prediction (all other p-values are two-tailed).
**Table 4**

How Review Ambiguity and Access Costs Affect Relative Willingness to Invest (H2)

**Panel A: Descriptive Statistics—Means [Standard Errors] for Relative Willingness to Invest Judgments**

<table>
<thead>
<tr>
<th>Review Ambiguity</th>
<th>Access Costs</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>4.13 [3.53]</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>-3.32 [2.41]</td>
</tr>
<tr>
<td></td>
<td>n = 31</td>
<td>n = 30</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>0.25 [3.19]</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>3.90 [3.00]</td>
</tr>
<tr>
<td></td>
<td>n = 30</td>
<td>n = 31</td>
</tr>
<tr>
<td>Column Means</td>
<td>High</td>
<td>2.22 [2.38]</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>0.35 [1.97]</td>
</tr>
<tr>
<td></td>
<td>n = 61</td>
<td>n = 61</td>
</tr>
</tbody>
</table>

**Panel B: Analysis of Variance (ANOVA) Results**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguity</td>
<td>85.08</td>
<td>1</td>
<td>85.08</td>
<td>0.30</td>
<td>0.59</td>
</tr>
<tr>
<td>Cost</td>
<td>109.64</td>
<td>1</td>
<td>109.64</td>
<td>0.38</td>
<td>0.54</td>
</tr>
<tr>
<td>Ambiguity by Cost</td>
<td>939.04</td>
<td>1</td>
<td>939.04</td>
<td>3.27</td>
<td>0.07</td>
</tr>
<tr>
<td>Error</td>
<td>33870.31</td>
<td>118</td>
<td>287.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel C: Follow-Up Simple Effects Tests**

<table>
<thead>
<tr>
<th>Test</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Ambiguity / Low Cost &gt; High Ambiguity / Low Cost</td>
<td>59</td>
<td>1.87</td>
<td>0.03*</td>
</tr>
<tr>
<td>Low Ambiguity / High Cost vs. High Ambiguity / High Cost</td>
<td>59</td>
<td>0.81</td>
<td>0.42</td>
</tr>
<tr>
<td>High Ambiguity / High Cost vs. High Ambiguity / Low Cost</td>
<td>59</td>
<td>1.73</td>
<td>0.09</td>
</tr>
<tr>
<td>Low Ambiguity / High Cost vs. Low Ambiguity / Low Cost</td>
<td>59</td>
<td>0.84</td>
<td>0.41</td>
</tr>
</tbody>
</table>

This table presents descriptive statistics, an ANOVA model, and follow-up simple effects tests for participants’ relative willingness to invest judgments. Relative willingness to invest is the difference in a participant’s willingness to invest in ActiveCo and MoveCorp. I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process. I manipulate access costs by varying the amount of effort required to access review correspondence.

*One-tailed equivalent given directional prediction (all other p-values are two-tailed).
Table 5
How Review Ambiguity and Access Costs Affect Information Processing (Alternative Low Ambiguity Operationalization)

Panel A: Descriptive Statistics—Percentage [Proportions] of Investors that Adjust MoveCorp’s SG&A Expenses

<table>
<thead>
<tr>
<th>Review Ambiguity</th>
<th>Access Costs</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>Row Means</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>48%</td>
<td>30%</td>
<td>39%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[15 / 31]</td>
<td>[9 / 30]</td>
<td>[24 / 61]</td>
<td></td>
</tr>
<tr>
<td>Low (Alternative)</td>
<td>44%</td>
<td>57%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[14 / 32]</td>
<td>[16 / 28]</td>
<td>[30 / 60]</td>
<td></td>
</tr>
<tr>
<td>Column Means</td>
<td>46%</td>
<td>43%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[29 / 63]</td>
<td>[25 / 58]</td>
<td>[54 / 121]</td>
<td></td>
</tr>
</tbody>
</table>

Panel B: General Linear Model (Logit Link) Results — Adjustments to SG&A Expenses

\[
\text{Adjust} = \beta_1 + \beta_2 \text{Ambiguity} + \beta_3 \text{Cost} + \beta_4 \text{Ambiguity} \times \text{Cost} + \epsilon
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>( \chi^2 )</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguity</td>
<td>1</td>
<td>1.60</td>
<td>0.21</td>
</tr>
<tr>
<td>Cost</td>
<td>1</td>
<td>0.11</td>
<td>0.74</td>
</tr>
<tr>
<td>Ambiguity by Cost</td>
<td>1</td>
<td>3.12</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Panel C: Follow-Up Tests Using Fisher’s Exact Test: Percentage Adjusting SG&A Expenses

<table>
<thead>
<tr>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Ambiguity (Alt) / Low Cost &gt; High Ambiguity / Low Cost</td>
<td>1</td>
</tr>
<tr>
<td>Low Ambiguity (Alt) / High Cost vs. High Ambiguity / High Cost</td>
<td>1</td>
</tr>
<tr>
<td>High Ambiguity / High Cost vs. High Ambiguity / Low Cost</td>
<td>1</td>
</tr>
<tr>
<td>Low Ambiguity (Alt) / High Cost vs. Low Ambiguity (Alt) / Low Cost</td>
<td>1</td>
</tr>
</tbody>
</table>

This table presents descriptive statistics, general linear model results, and follow-up tests using Fisher’s Exact Test for the percentage of participants that adjust MoveCorp’s SG&A expenses in each condition using my alternative Low Ambiguity operationalization. I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process. I manipulate access costs by varying the amount of effort required to access review correspondence. *One-tailed equivalent given directional prediction (all other p-values are two-tailed).
Table 6
How Review Ambiguity and Access Costs Affect Information Integration (Percentage Adjusting SG&A Expenses) (Alternative Low Ambiguity Operationalization)

Panel A: Descriptive Statistics—Percentage [Proportions] of Investors that Adjust MoveCorp’s SG&A Expenses

<table>
<thead>
<tr>
<th>Access Costs</th>
<th>Review Ambiguity</th>
<th>High</th>
<th>Low</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td>70%</td>
<td>31%</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[14 / 20]</td>
<td>[9 / 29]</td>
<td>[23 / 49]</td>
</tr>
<tr>
<td>Low (Alternative)</td>
<td></td>
<td>65%</td>
<td>57%</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[11 / 17]</td>
<td>[16 / 28]</td>
<td>[27 / 45]</td>
</tr>
<tr>
<td>Column Means</td>
<td></td>
<td>68%</td>
<td>44%</td>
<td>53%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[25 / 37]</td>
<td>[25 / 57]</td>
<td>[50 / 94]</td>
</tr>
</tbody>
</table>

Panel B: General Linear Model (Logit Link) Results —Adjustments to SG&A Expenses

\[
\text{Adjust} = \beta_1 + \beta_2 \text{Ambiguity} + \beta_3 \text{Cost} + \beta_4 \text{Ambiguity} \times \text{Cost} + \epsilon
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>(\chi^2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguity</td>
<td>1</td>
<td>0.89</td>
<td>0.35</td>
</tr>
<tr>
<td>Cost</td>
<td>1</td>
<td>4.81</td>
<td>0.03</td>
</tr>
<tr>
<td>Ambiguity by Cost</td>
<td>1</td>
<td>2.20</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Panel C: Planned Contrast: Weight of -3 for High Ambiguity / Low Cost and + 1 for Low Ambiguity / Low Cost, High Ambiguity / High Cost, and Low Ambiguity / High Cost

<table>
<thead>
<tr>
<th>df</th>
<th>(\chi^2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.18</td>
<td>&lt; 0.01</td>
</tr>
</tbody>
</table>

Panel D: Follow-Up Tests Using Fisher’s Exact Test: Percentage Adjusting to SG&A Expenses

<table>
<thead>
<tr>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Ambiguity (Alt.) / Low Cost &gt; High Ambiguity / Low Cost</td>
<td>1</td>
</tr>
<tr>
<td>Low Ambiguity (Alt.) / High Cost vs. High Ambiguity / High Cost</td>
<td>1</td>
</tr>
<tr>
<td>High Ambiguity / High Cost vs. High Ambiguity / Low Cost</td>
<td>1</td>
</tr>
<tr>
<td>Low Ambiguity (Alt.) / High Cost vs. Low Ambiguity (Alt.) / Low Cost</td>
<td>1</td>
</tr>
</tbody>
</table>

This table presents descriptive statistics, general linear model results, planned contrast results, and follow-up tests using Fisher’s Exact Test for the percentage of participants that adjust MoveCorp’s SG&A expenses, conditional on viewing MoveCorp’s review correspondence and using my alternative Low Ambiguity operationalization. I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process. I manipulate access costs by varying the amount of effort required to access review correspondence. An approximation of a semiomnibus test confirms that residual between-cells variance is not significant after accounting for the planned contrast in Panel C (\(F_{2,00} = 0.24; p = 0.79\)), and only 5.6% of the between-cells variance is not explained by the contrast (Guggenmos et al. 2018). *One-tailed equivalent given directional prediction (all other p-values are two-tailed).
## Table 7
How Review Ambiguity and Access Costs Affect Relative Willingness to Invest (Alternative Low Ambiguity Operationalization)

### Panel A: Descriptive Statistics—Means [Standard Errors] for Relative Willingness to Invest Judgments

<table>
<thead>
<tr>
<th>Review Ambiguity</th>
<th>Access Costs</th>
<th>Row Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>n = 31</td>
<td>n = 30</td>
</tr>
<tr>
<td>Low (Alternative)</td>
<td>-6.11 [2.05]</td>
<td>0.25 [1.78]</td>
</tr>
<tr>
<td></td>
<td>n = 32</td>
<td>n = 28</td>
</tr>
<tr>
<td>Column Means</td>
<td>-1.07 [2.11]</td>
<td>-1.60 [1.52]</td>
</tr>
<tr>
<td></td>
<td>n = 63</td>
<td>n = 58</td>
</tr>
</tbody>
</table>

### Panel B: Analysis of Variance (ANOVA) Results

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambiguity</td>
<td>335.80</td>
<td>1</td>
<td>335.80</td>
<td>1.69</td>
<td>0.20</td>
</tr>
<tr>
<td>Cost</td>
<td>8.90</td>
<td>1</td>
<td>8.90</td>
<td>0.05</td>
<td>0.83</td>
</tr>
<tr>
<td>Ambiguity by Cost</td>
<td>1437.74</td>
<td>1</td>
<td>1437.74</td>
<td>7.25</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Error</td>
<td>23206.34</td>
<td>117</td>
<td>198.35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Panel C: Follow-Up Simple Effects Tests

<table>
<thead>
<tr>
<th>Comparison</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Ambiguity (Alt) / Low Cost &gt; High Ambiguity / Low Cost</td>
<td>56</td>
<td>1.18</td>
<td>0.12*</td>
</tr>
<tr>
<td>Low Ambiguity (Alt) / High Cost vs. High Ambiguity / High Cost</td>
<td>61</td>
<td>2.53</td>
<td>0.01</td>
</tr>
<tr>
<td>High Ambiguity / High Cost vs. High Ambiguity / Low Cost</td>
<td>59</td>
<td>1.73</td>
<td>0.09</td>
</tr>
<tr>
<td>Low Ambiguity (Alt) / High Cost vs. Low Ambiguity (Alt) / Low Cost</td>
<td>58</td>
<td>2.31</td>
<td>0.02</td>
</tr>
</tbody>
</table>

This table presents descriptive statistics, an ANOVA model, and follow-up simple effects tests for participants’ relative willingness to invest judgments, using my alternative Low Ambiguity operationalization. Relative willingness to invest is the difference in a participant’s willingness to invest in ActiveCo and MoveCorp. I manipulate review ambiguity by varying how transparent the Regulator is regarding the outcomes from its review process. I manipulate access costs by varying the amount of effort required to access review correspondence.

*One-tailed equivalent given directional prediction (all other p-values are two-tailed).
REFERENCES


Pershing Square. 2012. Who Wants to be a Millionaire? Available at: https://www.mlmwatch.org/04C/Herbalife/ackman.pdf


APPENDIX A: EXAMPLE SEC COMMENT LETTER

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

August 29, 2011

Via E-Mail

Mr. C. Bradford Richmond
Chief Financial Officer
Darden Restaurants, Inc.
1000 Darden Center Drive
Orlando, Florida 32837

Re: Darden Restaurants, Inc.
Form 10-K for the year ended May 29, 2011
Filed July 22, 2011
File No. 001-13666

Dear Mr. Richmond:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the fiscal year ended May 29, 2011
Exhibit 13
Unearned Revenues, page 30

1. We note that you recognize breakage for unused gift card amounts in proportion to actual gift card redemptions. We also note that during fiscal 2010 you changed your estimate of gift card breakage and adjusted unearned revenue with a corresponding reduction in gift card breakage of $20.4 million as a result of a significantly higher trend in gift card redemption. In light of such current consumer redemption behavior, the increase in gift card sales and that unearned revenue represented $200 and $172.7 million of your balance sheet at May 31, 2011 and 2010, respectively, please tell us and expand your unearned revenue policy footnote to disclose the estimate value or percentage of gift card sales that you recognize as breakage for each period presented and the period over which breakage is recognized. Furthermore, as part of your response please describe for us your
methodology for being able to reasonably and objectively determine the amount of gift card breakage in addition to the estimated time period of actual gift card redemption. We may have further comment upon receipt of your response.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Effie Simpson at (202) 551-3346, or in her absence, Jean Yu at (202) 551-3305 if you have questions regarding comments on the financial statements and related matters. Please contact the undersigned with any other questions at (202) 551-3750.

Sincerely,

/s/ Linda Cvrkel

Linda Cvrkel
Branch Chief
APPENDIX B: EXPERIMENTAL MATERIALS

Panel A: *High Ambiguity* condition

(Before viewing any review correspondence)

As a reminder, the Regulator periodically reviews firms' financial reports. When the Regulator has comments or questions, it issues a review letter to the firm's management. The firm's management can then provide a response to the Regulator.

- When the Regulator does not have any comments or questions, it does *not* issue a review letter.

- In addition, if the Regulator does not review a filing, it does *not* provide any notification.

- Thus, a review letter is only issued for *one of the three* possible outcomes—if no review letter is issued, it is uncertain whether (1) the Regulator did not review the firm's report or (2) the Regulator reviewed the report and had no comments or questions.

(If participant chooses to view review correspondence)

**REVIEW CORRESPONDENCE**

As a reminder, the Regulator issues a review letter for only *one of the three* possible outcomes—if no review letter is issued, it is uncertain whether (1) the Regulator did not review the firm's report or (2) the Regulator reviewed the report and had no comments or questions.

The Regulator did *not* issue a review letter for ActiveCo's FY 2017 Financial Report.

Recall that this means that it is uncertain whether (1) the Regulator did not review ActiveCo's FY 2017 Financial Report or (2) the Regulator reviewed ActiveCo's FY 2017 Financial Report and had no comments or questions.
Panel B: *Low Ambiguity* condition

(Before viewing any review correspondence)

As a reminder, the Regulator periodically reviews firms’ financial reports. When the Regulator has comments or questions, it issues a review letter to the firm’s management. The firm’s management can then provide a response to the Regulator.

- When the Regulator does not have any comments or questions, it issues a review letter stating so.

- In addition, if the Regulator does not review a filing, it issues a review letter stating so.

- Thus, the Regulator issues a review letter for *all three* possible outcomes, including if (1) the Regulator did not review the firm’s report or (2) the Regulator reviewed the report and had no comments or questions.

(If participant chooses to view review correspondence)

**REVIEW CORRESPONDENCE**

As a reminder, the Regulator issues a review letter for *all three* possible outcomes, including if (1) the Regulator did not review the firm’s report or (2) the Regulator reviewed the report and had no comments or questions.

To ActiveCo Management:

We reviewed your FY 2017 Financial Report and have no comments on your report.

Sincerely,

Regulator
Panel C: *High Cost* condition (ActiveCo review correspondence after participant clicks to view)

Click to view any Review Correspondence between ActiveCo and Regulator

To view any review correspondence, you must first respond to each of the questions below.

Once you correctly respond to all questions, you will be able to view any review correspondence.

You may also proceed without viewing the review correspondence. To do so, click "Next Page" at the bottom.

6 * 9 =
80 - 47 =
5 * 14 =
84 - 27 =
55 + 68 =
30 - 13 =
31 + 85 =
7 * 9 =
59 - 8 =
58 - 18 =
73 + 63 =
92 + 96 =
98 - 75 =
40 + 22 =
8 * 6 =
Panel D: *Low Cost* condition (ActiveCo review correspondence after participant clicks to view)

**Click to view any Review Correspondence between ActiveCo and Regulator**

**REVIEW CORRESPONDENCE**

As a reminder, the Regulator issues a review letter for *all three* possible outcomes, including if (1) the Regulator did not review the firm’s report or (2) the Regulator reviewed the report and had no comments or questions.

To ActiveCo Management:

We reviewed your FY 2017 Financial Report and have no comments on your report.

Sincerely,

Regulator
Panel E: MoveCorp Review Correspondence (All Conditions)

To MoveCorp Management:

We reviewed your FY 2017 Financial Report. You note that the decrease in SG&A expenses (as a percentage of net revenue) from FY 2016 to FY 2017 was “due to reduced supply chain expenses and other factors.”

Please provide additional elaboration on the reasons for the decrease.

Sincerely,

Regulator

-------------------------------------------------------------------------------------------------------------------------------------

To Regulator:

In addition to the reduced supply chain expenses, the decrease in SG&A expenses in FY 2017 was attributable to a decline in head office employee costs as well as a one-time gain of approximately $30 million from the sale of production assets.

Sincerely,

MoveCorp Management
APPENDIX C: IRB APPROVAL LETTER

Dear Dr. Elliot,

This message serves to supply UIUC IRB approval for the minor modifications being made to your protocol IRB #18299, *Un timely and incomparable: How do the temporal proximity and transparency of SEC review correspondence influence investor judgments?* This amendment approves the following changes:

- Expanding the subject pool to include Amazon Mechanical Turk Workers,
- Expanding the expected time for completion from 20 minutes to 30 minutes.

**EXPIRATION DATE:** 11/07/2022

It has been determined that the research activities described in this application still meet the criteria for exemption at 45CFR46.101(b)(2). Attached you will find a full copy of the approved protocol with all changes included.

This determination of exemption only applies to the research study as submitted. Please note that additional modifications to your project need to be submitted to the IRB for review and exemption determination or approval before the modifications are initiated.

We appreciate your conscientious adherence to the requirements of human subjects research. If you have any questions about the IRB process, or if you need assistance at any time, please feel free to contact me at the OPRS office, or visit our website at [http://oprs.research.illinois.edu](http://oprs.research.illinois.edu).

Rebecca Miller, MSW
Human Subjects Research Specialist, Office for the Protection of Research Subjects