

INVESTOR REACTION TO DISCLOSURE OF PAST PERFORMANCE AND  
FUTURE PLANS

A Dissertation

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

by

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January 2017

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INVESTOR REACTION TO DISCLOSURE OF PAST PERFORMANCE AND  
FUTURE PLANS

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Cornell University 2017

Firms dedicate large portions of financial disclosures to updating and discussing their strategy and plans for the future, and investors often evaluate those plans after learning how the firm performed in the current period. I examine how current-period performance shapes investors' beliefs about the appropriateness of managerial optimism which, in turn, affects their evaluation of firms that focus on either challenges or opportunities in future-oriented disclosures. I conduct three experiments that test my process theory. I hypothesize and find that a firm's current-period performance shapes investors' beliefs about whether managers can best achieve success by being more or less optimistic about the future. When a firm is performing poorly, investors believe that managers can best achieve success by being more optimistic and less realistic about the future, and therefore invest more if the firm focuses on opportunities rather than challenges in future-oriented disclosures. When a firm is performing well, on the other hand, investors believe that managers can best achieve success by being more realistic and less optimistic about the future, and therefore invest more if the firm focuses on challenges rather than opportunities. These results challenge the notion that investors always react positively (negatively) to disclosures that focus on opportunities (challenges). Instead, these results suggest circumstances in which managers can benefit by focusing on challenges, in order to signal a more realistic and less optimistic outlook about the future.

## BIOGRAPHICAL SKETCH

Scott Emmett received a B.S. in Accounting from Brigham Young University in 2011 and an M.A. in Accounting from Brigham Young University in 2011. He received an M.S. in Management from Cornell University in 2016 and a Ph.D. in Management from Cornell University in 2017. His research focuses on judgment and decision making in external and internal financial reporting. Scott joined the faculty at Arizona State University in August 2016.

In his free time, Scott enjoys going on adventures with his wife, Heidi, and his three children, Ethan, Leah, and Silas. He is also a zealous BYU sports fan, during good seasons and bad seasons.

*TO MY WIFE, HEIDI*

*for your bright, cheery attitude and love*

*TO MY CHILDREN, ETHAN, LEAH, AND SILAS*

*for the smile you put on my face and for the purpose you bring to my life*

*TO MY PARENTS, VAUGHN AND BEV*

*for shaping my work ethic and for your unconditional love*

## ACKNOWLEDGMENTS

I owe a great deal of gratitude to my advisor, Mark Nelson, and to Bob Libby, who co-chaired my dissertation, for lending their time, effort, and counsel throughout my doctoral program. I gratefully acknowledge the valuable advice and feedback provided by my dissertation committee members: Bob Libby (Co-chair), Mark Nelson (Co-chair), James Booth, and Tom Gilovich. I also thank Vic Anand, Rob Bloomfield, Jason Brown, Jim Cannon, Willie Choi, Mike Durney, Brooke Elliott, Vaughn Emett, Harry Evans, Ryan Guggenmos, Frank Hodge, Vicky Hoffman, Pat Hopkins, Kim Ikuta, Steve Kaplan, Kathryn Kadous, Eldar Maksymov, Michal Matejka, Ken Merkley, Don Moser, Mark Peecher, Jamie Pratt, Adam Presslee, Sue Ravenscroft, Kristi Rennekamp, Kristy Towry, Todd Thornock, Brain Wenzel and workshop participants at Arizona State University, Cornell University, Emory University, Indiana University, University of Illinois at Urbana-Champaign, Iowa State University, the University of Pittsburgh, and the University of Washington, for helpful comments and suggestions. I also thank the Samuel Curtis Johnson Graduate School of Management at Cornell University and the Deloitte Foundation for financial support.

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## CHAPTER 1

### INTRODCUTION

Firms dedicate large portions of financial disclosures to updating and discussing their strategy and plans for the future. Within these disclosures, firms take different approaches to discussing their strategies and plans. Sometimes they focus on potential negative outcomes (challenges) and discuss how their strategies allow them to avoid those negative outcomes. Other times they focus on potential positive outcomes (opportunities) and discuss how their strategies allow them to obtain those positive outcomes. Investors and analysts often consider these disclosures after learning how the firm performed in the current period, both because firms' earnings announcements begin the disclosure cycle and because discussions of current-period performance almost always precede discussions of the firm's strategy and plans for the future within earnings releases, conference calls, letters to shareholders, and 10-Ks. Given that investors process information about past performance and future plans in this way, I test whether current-period performance shapes how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures.

These tests are important because they provide evidence of a pervasive moderating factor that affects how investors evaluate future-oriented disclosures. Prior archival research provides evidence that investors react positively to disclosures that have a positive focus (i.e., positive disclosure "tone") and negatively to disclosures that have a negative focus (i.e., negative disclosure "tone") (e.g., see Lang and

Lundholm 2000; Henry 2008; Li 2010; Davis et al. 2012; Price et al. 2012; Huang et al. 2014; Davis et al. 2015). While this prior research identifies a main effect of tone on investors' reactions, I test whether tone interacts with current-period performance to determine investors' reactions. In addition, prior literature relies on measures of positive and negative tone that are very broad, capturing information about the content of a firm's past performance and future plans as well as the manner in which firms present that information (Henry 2008; Davis et al. 2014; Tan et al. 2014). I disentangle these effects by holding constant the content of a firm's future plans and manipulating the presentation of those plans (manipulating whether they focus on challenges or opportunities). This approach allows me to test how investors react to a component of tone that is more discretionary in nature.

I draw from psychology research on optimism and self-presentation to derive my predictions. Prior psychology research suggests that a firm's current-period performance will activate different lay theories about whether managers can best achieve success by being more or less optimistic about the future (Armor et al. 2008; Tenney et al. 2015). Specifically, this literature suggests that poor recent performance will trigger lay theories about the benefits of optimism—that it fosters a hopeful outlook, positive emotions, and task persistence that can help managers make the necessary changes to improve performance (Frederickson 2001; Tenney et al. 2015). Conversely, this literature suggests that successful recent performance will trigger lay theories about the costs of optimism—that it causes overconfidence, which blinds managers to important environmental challenges and contingencies that they would otherwise recognize (Schlenker and Leary 1982; Wosinska et al. 1996; Hareli and

Weiner 2000; Pronin et al. 2002). Accordingly, I predict that when a firm is performing poorly, investors will believe that managers can best achieve success by being more optimistic about the future; whereas, when a firm is performing well, investors will believe that managers can best achieve success by being more realistic about the future

Second, I draw from literature that suggests investors will perceive opportunity-focused disclosures as conveying optimistic managerial beliefs and challenge-focused disclosures as conveying realistic managerial beliefs (Buehler et al. 2002). Accordingly, I predict that investors who believe that managers can best achieve success by being more realistic about the future will invest more when the firm focuses on challenges rather than opportunities, and investors who believe that managers can best achieve success by being more optimistic about the future will invest more when the firm focuses on opportunities rather than challenges.

Together, these streams of literature suggest that when a firm is performing well, investors will believe that managers can best achieve success by being more realistic about the future, and will therefore invest more when the firm focuses on challenges rather than opportunities in future-oriented disclosures. Conversely, when a firm is performing poorly, investors will believe that managers can best achieve success by being more optimistic about the future, and will therefore invest more when the firm focuses on opportunities rather than challenges.

I conduct three experiments to test these predictions and the theoretical process underlying them. Experiment 1 tests the overall effect that I predict by examining whether current-period performance shapes how investors evaluate firms that focus on

either challenges or opportunities in future-oriented disclosures. Experiments 2 and 3 test whether this effect operates through participants' beliefs about the benefits of managerial optimism.

In all three experiments, participants assume the role of investor and evaluate ProCom Inc., a fictional firm in the business services industry. Experiment 1 manipulates ProCom's current-period performance (good news or bad news) and the presentation of ProCom's letter to shareholders (challenge-focused or opportunity-focused). Participants read about ProCom's recent performance in an earnings release, read about ProCom's plans for the future in a letter to shareholders, and then decide whether to increase, decrease, or maintain their investment in ProCom. Results indicate that when a firm is performing poorly, investors invest more if that firm focuses on opportunities rather than challenges in future-oriented disclosures. In contrast, when a firm is performing well, investors invest more if that firm focuses on challenges rather than opportunities in future-oriented disclosures. Additional analyses provide evidence that investors are aware that current-period performance influences how they evaluate firms that focus on either challenges or opportunities in future-oriented disclosures but are unaware of the full extent of that influence.

I then test the causal chain producing the effect demonstrated in Experiment 1 in two steps (Spencer et al. 2005). Experiment 2 tests the first link in the causal chain by manipulating ProCom's current-period performance (good news or bad news) and measuring participants' beliefs about the benefits of managerial optimism. An independent group of participants read about ProCom's recent performance and then indicate whether they believe ProCom's managers can best achieve success by being

more or less optimistic about the future. Results indicate that a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism. Specifically, when a firm is performing poorly, investors believe that managers can best achieve success by being more optimistic and less realistic about the future; when a firm is performing well, investors believe that managers can best achieve success by being more realistic and less optimistic about the future.

Experiment 3 tests the second link in the causal chain by directly manipulating investors' beliefs about the benefits of managerial optimism and the presentation of ProCom's letter to shareholders (challenge-focused or opportunity-focused), and measuring participants' investment decisions. Participants read either an article describing the benefits of managerial optimism or an article describing the benefits of managerial realism. They then read ProCom's letter to shareholders and decide whether to increase, decrease, or maintain their investment in ProCom. Results indicate that investors' beliefs about the benefits of managerial optimism shape how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures. Specifically, investors invest more in a firm that focuses on opportunities rather than challenges after reading an article describing the benefits of managerial optimism, but not after reading an article describing the benefits of managerial realism.

Together, Experiments 1-3 provide evidence that a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism, which in turn shape how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures.

This paper contributes to the accounting and psychology literature in five main ways. First, it contributes to archival and experimental research on disclosure tone. This study challenges a notion in the accounting and finance archival literatures that investors always react positively to disclosures with a positive focus (i.e., positive disclosure tone) and negatively to disclosures with a negative focus (i.e., negative disclosure tone) (Lang and Lundholm 2000; Henry 2008; Li 2010; Davis et al. 2012; Price et al. 2012; Davis et al. 2015). While prior research identifies a main effect of tone, I provide evidence that tone interacts with a key environmental factor – current-period performance. I manipulate constructs that prior archival measures would categorize as “positive” or “negative” tone and provide evidence of circumstances in which investors predictably react positively to negative tone and negatively to positive tone. Also, while archival measures of tone capture both the content and presentation of a firm’s past performance and future plans, I disentangle these constructs and focus on the presentation of a firm’s future plans. Thus, my results suggest that the broad measures of tone used in prior archival research may mask how investors react to the manner in which firms present their plans and strategies in future-oriented disclosures.

This study also complements recent experimental research by Tan et al. (2014) on disclosure tone. Tan et al. (2014) examine how investors react to disclosure tone in disclosures that focus exclusively on past performance. They find that when readability is low, unsophisticated investors react positively to positive disclosure tone, and sophisticated investors react negatively to positive disclosure tone. My study complements theirs by examining how investors react to tone in disclosures that focus exclusively on the future, and by examining how investors’ reactions depend on a

firm's past performance. More broadly, my study complements a burgeoning experimental literature on how investors respond to qualitative features of narrative financial disclosures (see Libby and Emett 2014 for a review and Elliott et al. 2015 for a recent example).

Second, this research contributes to the accounting literature on managerial optimism and overconfidence. Prior literature provides evidence that managerial optimism causes managers to make sub-optimal operational and reporting decisions (e.g., see Camerer and Lovallo 1999; Malmendier and Tate 2005; Billett and Qian 2008; Libby and Rennekamp 2012; Hribar and Yang 2015; Schrand and Zechman 2012; Asay 2015). This paper examines managerial optimism from the perspective of an investor. It contributes to the literature by providing evidence that, despite the documented costs of managerial optimism, there are circumstances in which investors believe that it is beneficial, and make investment decisions based on those beliefs.

Third, this research provides practical recommendations to managers and investors. For managers, it provides recommendations on how to design persuasive future-oriented disclosures. Whereas managers might be tempted to focus on positive outcomes in future-oriented disclosures, this research suggests that managers can sometimes benefit by focusing on negative outcomes following good performance in order to signal a more realistic and less optimistic outlook about the future. For investors, it provides evidence on systematic ways in which current-period performance influences how they evaluate firms with different approaches to future-oriented disclosures. Although my study suggests that investors are aware of this influence, it also suggests that investors are not aware of the full extent of its



influence. Thus, investors may wish to take steps to attenuate the impact of a firm's current-period performance on how they evaluate future-oriented disclosures.

Fourth, this research contributes to the psychology literature by providing evidence of a novel construct that moderates individuals' beliefs about the benefits of optimism, and by studying the downstream consequences of those beliefs. Prior psychology research provides evidence that individuals believe optimism improves performance when someone is implementing a decision but not when they are deliberating on a decision (Armor et al. 2008; Tenney et al. 2015). My research provides evidence that individuals believe that optimism improves performance when someone is struggling but not when someone is succeeding.

Finally, this research contributes to the accounting literature by introducing an alternative method by which researchers can test a hypothesized theoretical process. Accounting researchers often test a hypothesized process by conducting a single study that manipulates independent variable(s) and measures mediating and dependent variables ("mediation-by-measurement"). As I discuss in more detail in section 2, that approach has some limitations (Spencer et al. 2005; Griffith et al. 2015; Libby et al. 2015) and is particularly problematic for studies like mine that capture mediating constructs that are difficult to measure unobtrusively and manipulate variables that can influence responses for more than one reason. I introduce an alternative approach advocated by Spencer et al. (2005), in which I conduct a series of experiments that tests each link in the hypothesized causal chain. This "mediation-by-manipulation" approach to testing process avoids some of the limitations of "mediation-by-

measurement” designs and capitalizes on the comparative advantages of experiments (Spencer et al. 2005; Libby et al. 2002).

Section 2 of this paper reviews relevant literature and develops my predictions. Sections 3-5 discuss methodology and results for Experiments 1-3, respectively. Section 6 discusses the paper’s contributions, limitations, and directions for future research.

## CHAPTER 2

### LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

As seen in Figure 1, I propose that a firm's current-period performance shapes investors' beliefs about whether managers can best achieve success by being more or less optimistic about the future, which in turn shape how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures (denoted Experiment 1 in Figure 1). Below, I develop predictions related to each causal link in the model. I first develop predictions about how a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism (denoted Experiment 2 in Figure 1). I then develop predictions about how investors' beliefs about the benefits of managerial optimism influence how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures (denoted Experiment 3 in Figure 1).

#### ***2.1 Does Current-Period Performance Affect Investors' Beliefs about the Benefits of Managerial Optimism?***

A large body of literature in psychology provides evidence that people are “unrealistically optimistic”—they overestimate the probability of favorable outcomes and underestimate the probability of unfavorable outcomes (e.g., see Weinstein 1980; Shepperd et al. 2013). For example, consumers overestimate their ability to pay off credit card debt, selecting credit cards with higher interest rates as a result (Yang et al. 2007). Cardiac patients underestimate their risk of future cardiac events, which lowers their stress levels and decreases their risk of future cardiac events (Hevey et al. 2014).

**Figure 1. Theoretical Model and Overview of Experiments**

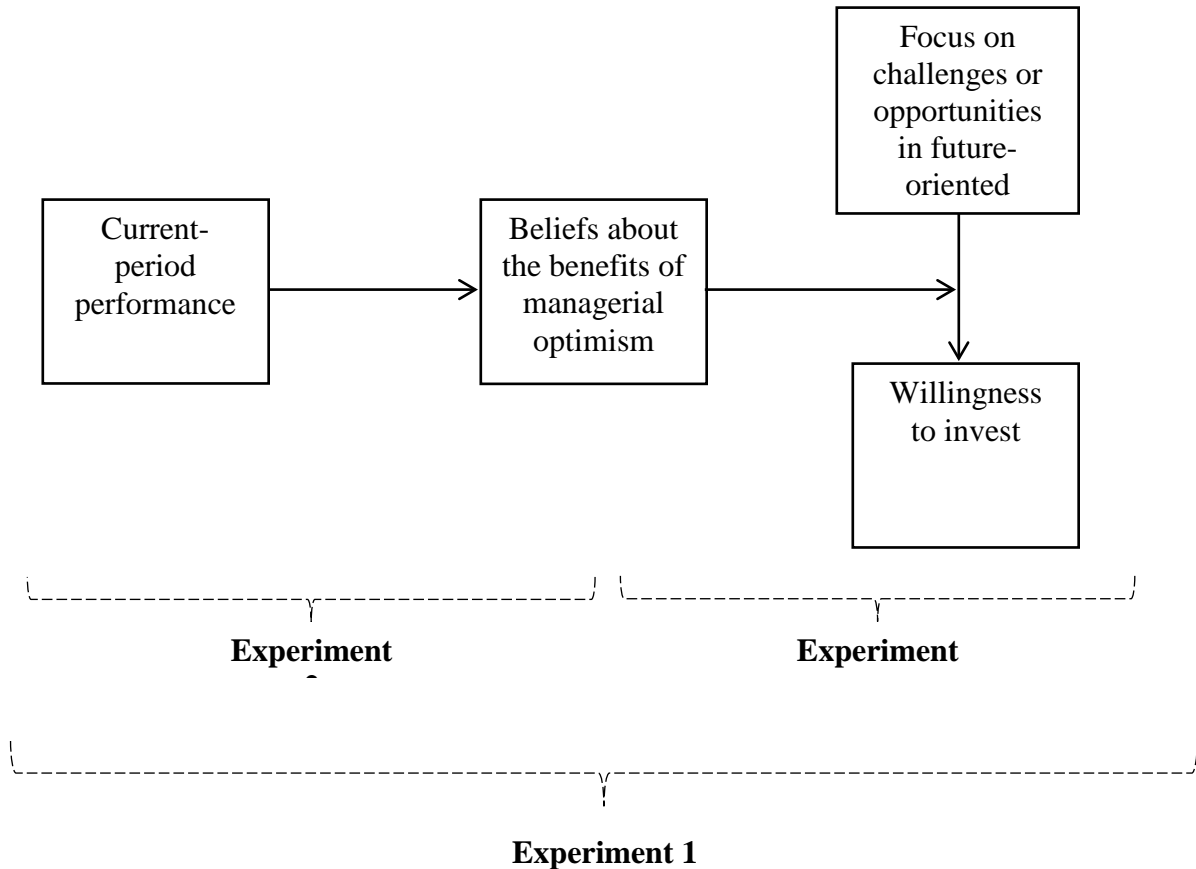


Figure 1 depicts the theoretical model underlying my predictions and outlines my approach in testing the theoretical model. The model proposes that a firm's current-period performance shapes whether investors believe that managers can best achieve success by being optimistic or realistic about the future, which in turn shapes whether investors respond positively or negatively to future-oriented disclosures that focus on challenges or opportunities. I test the entire proposed process in Experiment 1. Experiments 2 and 3 test each link in the causal chain. In particular, Experiment 2 tests whether a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism. Experiment 3 tests whether investors' beliefs about the benefits of managerial optimism shape whether investors respond positively or negatively to future-oriented disclosures that focus on challenges or opportunities.

In the accounting and finance domain, research provides evidence that unrealistic optimism causes managers to make sub-optimal operational and reporting decisions. Optimistic managers are more likely to enter unprofitable markets (Camerer and Lovo 1999), more likely to overinvest when they have available capital and underinvest when they need external financing (Malmendier and Tate 2005), more likely to make unprofitable acquisitions (Billett and Qian 2008), more likely to commit to costly disclosure (Libby and Rennekamp 2012; Hribar and Yang 2015), and more likely to manage earnings (Schrand and Zechman 2012; Asay 2015).

Despite the documented costs of managerial optimism, investors may sometimes believe that it is beneficial. Psychology research provides evidence that people believe that others can best achieve success on a variety of tasks by being more optimistic and less realistic about their prospects on those tasks (Armor et al. 2008). People tend to believe that optimism fosters a hopeful outlook, positive emotions, and task persistence, which help improve task performance (Armor and Taylor 1998; Tenney et al. 2015; Tugade and Frederickson 2004). These lay beliefs about optimism cause people to consistently overestimate the extent to which optimism actually helps people succeed (Tenney et al. 2015).

However, people do not *always* believe that optimism is beneficial. For example, people are less likely to believe that optimism is beneficial when someone is deliberating a decision (rather than implementing a decision) or when someone has little control over their performance (Armor et al. 2008; Tenney et al. 2015). Thus, task and environmental factors can activate different lay theories about the benefits of optimism, which yield different conclusions about the benefits of optimism. Extending

this line of research, I test whether a firm's recent performance shapes investors' beliefs about whether managers can best achieve success by being more or less optimistic about the future.

I first predict that poor recent performance will trigger the lay theories discussed above about the benefits of optimism—that it fosters a hopeful outlook, positive emotions, and task persistence (Armor and Taylor 1998; Tenney et al. 2015; Tugade and Frederickson 2004). Such lay theories will lead investors to believe that more optimism and less realism about the future can help struggling managers make the necessary changes to improve performance (Frederickson 2001). Accordingly, I predict that when a firm is performing poorly, investors will believe that managers can best achieve success by being more optimistic and less realistic about the future.

On the other hand, I predict that successful recent performance will trigger lay theories about the costs of optimism. Prior psychology research provides evidence that when evaluating a person who has recently succeeded, people react favorably to those who understate their achievements and future prospects and react unfavorably to those who portray their achievements and prospects in a positive light (Schlenker and Leary 1982; Leary and Kowalski 1990; Wosinska et al. 1996; Hareli and Weiner 2000). Optimism following success can signal to observers that an actor is overconfident (Pronin et al. 2002), developing too much confidence in their own abilities and not enough sensitivity to environmental challenges and contingencies (Miller and Ross 1975; Zuckerman 1979; Clapham and Schwenk 1991). Such lay theories about optimism will lead investors to believe that optimism blinds managers to important environmental challenges and contingencies that they would otherwise recognize (e.g.,

see Hilary and Menzly 2006; Hilary and Hsu 2011; Billett and Qian 2008; Libby and Rennekamp 2012). Accordingly, I predict that when a firm is performing well, investors will believe that managers can best achieve success by being more realistic and less optimistic about the future.

## ***2.2 Do Beliefs about the Benefits of Managerial Optimism Affect Investor Evaluation of Firms That Focus on Either Challenges or Opportunities in Future-Oriented Disclosures?***

If a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism, it may in turn influence how investors evaluate elements of future-oriented disclosures. In this paper, I focus on one element of future-oriented disclosures—whether managers focus on challenges or opportunities when discussing the company's plans and strategies for the future.

Within future-oriented disclosures, managers can differ in how they frame the company's strategy—managers can frame the strategy as a way to avoid negative outcomes that lead to failure and other times frame the strategy as a way to pursue positive outcomes that lead to success. Thus, in many future-oriented disclosures, managers can hold constant the strategy they will pursue and decide whether to frame their strategy as one that helps the company avoid failure (i.e., a challenge-focused disclosure) or one that helps the company succeed (i.e., an opportunity-focused disclosure). See Appendix A for examples from practice of challenge-focused disclosures and opportunity-focused disclosures.

Although prior research does not examine how investors react to challenge-focused and opportunity-focused disclosures, it does examine how investors react to related constructs. For example, prior archival research uses computer-based content

analysis to create broad measures of positive or negative disclosure “tone” in earnings releases, 10-Ks, and earnings conference calls (e.g., see Lang and Lundholm 2000; Li 2010; Rogers, et al. 2011; Davis and Tama-Sweet 2012; Davis et al. 2012; Price, et al. 2012; Huang et al. 2014; Davis et al. 2015). These measures of disclosure tone are intended to capture the extent to which managers focus either on the positive or negative in narrative disclosures. This research provides evidence that positive tone is associated with a favorable market reaction and favorable future performance, and that negative tone is associated with an unfavorable market reaction and unfavorable future performance (e.g., see Lang and Lundholm 2000; Henry 2008; Li 2010; Davis et al. 2012; Price et al. 2012; Davis et al. 2015).

An inherent challenge with this research is that archival measures of tone are very broad, capturing both information about the firm’s past performance and future plans (i.e., “content”) and the manner in which firms present that information (i.e., “presentation”) (Henry 2008; Davis et al. 2014; Tan et al. 2014). Thus, the positive relationship between tone and market reaction may be driven by either content, presentation, or both. My study disentangles these constructs by holding constant a firm’s future plans and manipulating whether the firm focuses on challenges or opportunities when presenting those plans.

Prior psychology research suggests that investors will interpret opportunity-focused disclosures as more indicative of optimism and challenge-focused disclosures as more indicative of realism. Specifically, prior research provides evidence that individuals develop unrealistic optimism by focusing too much on their plans to achieve desirable outcomes and not enough on plans to mitigate the many



environmental challenges and contingencies that produce undesirable outcomes (Buehler et al. 2002). Thus, someone who is unrealistically optimistic tends to focus more on positive outcomes than someone who is realistic.

Based on this literature, I predict that investors will perceive opportunity-focused disclosures as conveying a more optimistic outlook about the future and challenge-focused disclosures as conveying a more realistic outlook about the future. Thus, to the extent that investors believe that managers can best achieve success by being more optimistic and less realistic about the future, they will be more willing to invest in a firm that focuses on opportunities rather than challenges in future-oriented disclosures. In contrast, to the extent that investors believe that managers can best achieve success by being more realistic and less optimistic about the future, they will be more willing to invest in a firm that focuses on challenges rather than opportunities in future-oriented disclosures.

### ***2.3 Hypotheses***

The above discussion suggests that a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism, which in turn shapes how investors evaluate firms that focus either on challenges or opportunities in future-oriented disclosures. My first hypothesis relates to the combined effect of this theoretical process. Specifically, I first predict that a firm's current-period performance will shape how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures. This prediction is illustrated in Figure 2, Panel A and stated below:

H1: When a firm is performing well (poorly), investors invest more when that firm focuses on challenges (opportunities) in future-oriented disclosures rather than opportunities (challenges).

My second two hypotheses relate to the process by which the effect in H1 arises.

Specifically, I predict that a firm's current-period performance will shape investors' beliefs about the benefits of managerial optimism (H2), which in turn will shape how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures (H3). These predictions are illustrated in Panel A of Figures 3 and 4, respectively, and are stated below:

H2: When a firm is performing well (poorly), investors believe that managers can best achieve success by being more (less) realistic and less (more) optimistic about the future.

H3: Investors who believe that managers can best achieve success by being more realistic and less optimistic (more optimistic and less realistic) about the future invest more when the firm focuses on challenges (opportunities) in future-oriented disclosures rather than opportunities (challenges).

#### ***2.4 Approach to Hypothesis Testing***

Accounting researchers often test a hypothesized process by conducting a single study that manipulates independent variable(s) and measures mediating and dependent variables (i.e., "mediation-by-measurement"). Spencer et al. (2005) identify a number of limitations of testing a psychological process through "mediation-by-measurement" designs. Two are most important in the current setting. First, measuring a mediating variable potentially contaminates measurement of the dependent variable of interest (or vice versa). Second, such an approach is correlational in nature and is thus susceptible to the possibility that an omitted variable accounts for the observed relationships.<sup>1</sup>

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<sup>1</sup> Spencer et al. (2005) note four other limitations of the "mediation-by-measurement" approach. First, this approach has low power. Second, researchers often choose to measure mediating variables and dependent variables that are not conceptually distinct, providing little evidence on the psychological

Testing my theory through “mediation-by-measurement” would be particularly problematic for my study for two main reasons. First, the nature of my study would require me to measure participants’ beliefs about the benefits of optimism *after* participants learn about the firm’s current-period performance but *before* participants read future-oriented disclosures and provide investment judgments. This order of measurement would raise concerns that my mediating measures contaminate the manner in which participants process future-oriented disclosures and respond to the dependent measure. Second, one of my independent variables (current-period performance) can potentially impact many different conceptual variables, exacerbating the possibility that an omitted variable could explain the correlational evidence provided by a “mediation-by-measurement” approach.

Therefore, I take an alternative approach advocated by Spencer et al. (2005), which is to conduct a series of experiments that tests each link in the hypothesized causal chain using manipulated independent variables (“mediation-by-manipulation”). Figure 1 illustrates the theory underlying my predictions and provides an overview of the experiments. In Experiment 1, I test the effect of the entire process proposed in Figure 1 on the dependent variable of interest, without the potential for mediating measures contaminating participants’ natural judgment process. In Experiments 2 and 3, I test each link in the causal chain, which allows me to provide causal evidence on the proposed process in Figure 1. I provide details about these experiments below.

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processes underlying the results. Third, such an approach rarely meets the assumptions required for a multiple regression-based analysis. Fourth, such an approach often ignores the possibility that the independent variable(s) interact with the mediating variable(s). Mediation by measurement also has advantages. For example, “mediation-by-measurement” allows researchers to quantify how much of an effect is explained by a measured mediating variable. Also, it is efficient, allowing mediation to be assessed within one experiment rather than across several.

## CHAPTER 3

### EXPERIMENT 1

#### **3.1 Method**

##### *3.1.1 Participants*

I recruited participants from Amazon Mechanical Turk's (AMT) online marketplace. Libby et al. (2002) recommend matching experimental subjects to the goals of an experiment and avoiding using more sophisticated subjects than is necessary to achieve an experiment's goals. My experiments require that participants understand only basic investment and accounting concepts (commonly referred to as "unsophisticated investors" or "nonprofessional investors" in the literature). Recent research suggests that AMT workers are reasonable proxies for unsophisticated investors. Specifically Krische (2015) provides evidence that AMT workers do not differ on financial literacy scores from a nationally representative sample of investors, and that research conducted with MBA students replicates using AMT workers. Furthermore, Farrell et al. (2014) provide evidence that AMT workers expend as much and sometimes more effort than students receiving higher pay. Given the convenience of the AMT marketplace, accounting researchers are increasingly using AMT workers as proxies for nonprofessional investors (e.g., see Rennekamp 2012; Asay et al. 2014; Jackson et al. 2014; Asay et al. 2015; Koonce et al. in press; Rennekamp et al. in press).<sup>2</sup>

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<sup>2</sup> In Section VI, I discuss the potential moderating role of financial literacy on my results.

One hundred ten individuals complete the experiment in exchange for \$1.50 payment. Following Rennekamp (2012), I recruit participants who live in the United States. I exclude three participants who do not live in the United States and do not consider English to be their native language but were able to participate due to a technical error, leaving a final sample of 107 participants.<sup>3</sup> Participants report that they, on average, are 31.6 years old, have 10.9 years of work experience, and have taken 1.4 accounting and 1.4 finance courses. 69.8% of participants have invested in stock in the past, and 81.8% of participants plan on investing in the future.

### *3.1.2 Design and Overview*

I conduct a 2x2 between-subjects experiment in which I measure participants' investment decisions and manipulate (1) current-period performance and (2) whether investors read challenge-focused or opportunity-focused disclosures.

Participants assume the role of an investor in ProCom Inc., a fictional firm modeled after Pitney Bowes, a publicly-traded firm in the business services industry (Emett and Nelson 2016). At the beginning of the experiment, participants are asked to assume that they have already invested \$10,000 of their savings in ProCom and are considering whether to increase, decrease, or maintain this investment.<sup>4</sup> They then read background information about ProCom and its industry.

The experiment consists of four phases. In the first phase, participants read ProCom's most recent earnings release and an analyst report. I manipulate earnings

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<sup>3</sup> Results are very similar when including these three participants. I note below all instances in which results differ when including these three participants.

<sup>4</sup> I ask participants to assume the role of current investor rather than prospective investor because this allows me to capture investment decisions that can either increase or decrease. Also, current investors are among those most likely to read a firm's earning release and letter to shareholders.

news during this phase of the experiment. In the second phase, participants read ProCom's letter to shareholders, which ProCom issued one week after their earnings release. I manipulate whether the letter to shareholders focuses on challenges or opportunities during this phase of the experiment. In the third phase of the experiment, participants provide investment judgments and answer post-experiment questions. In the fourth phase of the experiment, participants read the version of the letter to shareholders that they did not read in the second phase of the experiment (challenge-focused or opportunity-focused) and indicate whether their investment judgments would have changed had they received this alternative letter to shareholders. I provide additional information about these phases of the experiment below.

### *3.1.3 Independent Variables*

*3.1.3.1 Earning news manipulation.* In phase one of the experiment, participants read excerpts from the firm's earnings announcement and an analyst report that follows the earnings announcement. The excerpts focus exclusively on ProCom's current-period performance and do not discuss management's expectations about the future. In the Good News condition, the firm announces current-period revenue and earnings that exceed prior-year revenue and earnings. In addition, the analyst report announces that ProCom's earnings exceeded analysts' consensus expectations. In the Bad News condition, the firm announces current-period revenue and earnings that fall short of prior-year revenue and earnings. In addition, the analyst report announces that ProCom's earnings fell short of analysts' consensus expectations. (See Appendix B for the experimental materials related to this manipulation).

*3.1.3.2 Disclosure focus manipulation.* In phase two of the experiment, participants in all conditions read ProCom’s letter to shareholders, which is modeled after actual letters to shareholders by JP Morgan Chase and Pitney Bowes. In the letter, ProCom’s CEO announces three strategic initiatives. I manipulate whether these strategic initiatives are framed as helping the company avoid negative outcomes that lead to failure (challenge-focused) or as helping the company pursue positive outcomes that lead to success (opportunity-focused). I do this by manipulating several phrases in the letter so that the company describes either challenges or opportunities it would like to avoid or pursue. Importantly, both disclosures describe logically equivalent initiatives that will lead to logically equivalent outcomes; they differ only in their focus on whether the initiative will avoid negative outcomes or obtain positive outcomes.<sup>5</sup> See Appendix C for experimental materials related to this manipulation.

By manipulating whether managers frame their future-oriented disclosures as focusing on either opportunities or challenges, I create disclosures that prior archival literature would categorize as having either a positive or negative disclosure “tone”, respectively. For example, when analyzing the manipulated phrases using Loughran and McDonald’s (2011) measure of tone, I find that the manipulated phrases in the challenge-focused disclosures have 14 negative words and 2 positive words, whereas the manipulated phrases in the opportunity-focused disclosures have 1 negative word

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<sup>5</sup> In the Results section below, I discuss a supplementary experiment which provides evidence that the Disclosure Focus manipulation successfully manipulates participants’ perceptions of the extent to which ProCom’s manager focused on positive outcomes vs. negative outcomes, without manipulating participants’ perceptions of the three strategic initiatives discussed in the letter.

and 14 positive words.<sup>6</sup> Thus, challenge-focused (opportunity-focused) disclosures appear to vary on commonly-used measures of disclosure tone.

### *3.1.4 Dependent Variables*

*3.1.4.1 Investment Decision.* In phase three of the experiment, participants are asked to make an investment decision. Participants assume that they have already invested \$10,000 of their personal savings in ProCom Inc. and have another \$10,000 to potentially invest. They then respond to the following question: “Based on the disclosures provided, will you increase, decrease, or maintain your investment in ProCom?” Participants respond on a slider scale ranging from “Decrease investment by \$10,000” to “Increase investment by \$10,000”.

*3.1.4.2 Post-Experiment Questions.* Participants are then asked to answer a series of questions that measure the attributions they make about ProCom’s management. Specifically, I ask participants to evaluate ProCom’s management on three dimensions: (1) competence, (2) trustworthiness, and (3) risk calibration. For competence, participants indicate how competent or incompetent they believe the management of ProCom to be on a 101-point scale ranging from “Very Incompetent” to “Very Competent”. For trustworthiness, participants indicate how trustworthy or untrustworthy they believe the management of ProCom to be on a 101-point scale

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<sup>6</sup> Although the Loughran and McDonald (LM) dictionary categorizes the challenge-focused (opportunity-focused) phrases as having two negative words (one positive word), the phrases in question clearly describe negative (positive) outcomes. For example, in the challenge-focused phrase “less able”, LM’s dictionary counts “able” as being a positive word, despite the fact that the modifier “less” negates the positivity of the word “able”. Similarly, in the opportunity-focused phrase “seize opportunities”, LM’s dictionary counts the word “seize” as being a negative word because LM’s dictionary focuses on the negative meaning of the homophone seize, whereas my usage is not negative. Thus, although Loughran and McDonald’s dictionary captures the extent to which my challenge-focused disclosures focus on the negative and my opportunity-focused disclosures focus on the positive, it does so imperfectly.



ranging from “Very Untrustworthy” to “Very Trustworthy”. For risk calibration, participants indicate whether they think the management of ProCom is taking too many risks, not taking enough risks, or is taking an appropriate number of risks on a 101-point scale, ranging from “Not taking enough risks” to “Taking too many risks,” with “Taking an appropriate number of risks” as the midpoint.

Next, participants answer five questions adapted from Carver and White’s (1994) behavioral activation scale to gauge participants’ mood and motivation.<sup>7</sup> As discussed below, I use these questions, in conjunction with a supplementary experiment, to rule out alternative theoretical explanations for my results.

*3.1.4.3 Investment Decision Re-Assessment.* In phase four of the experiment, participants read the version of the letter to shareholders that they did not see in phase two of the experiment (either challenge-focused or opportunity-focused) and re-assess their investment decision. Participants again respond on a slider scale ranging from “Decrease investment by \$10,000” to “Increase investment by \$10,000”, with the response scale anchored on participants’ original judgment. Participants are told: “The scale below shows your investment decision under the original letter to shareholders. Please adjust it if your judgment would differ under the alternative letter to shareholders.” Participants finish the experiment by answering demographic questions.

## **3.2 Results**

### *3.2.1 Manipulation Checks and Other Construct Tests*

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<sup>7</sup> Specifically participants indicated the extent to which the following statements described how they felt at that moment: (1) I feel excited and energized, (2) I feel like I’m doing well at something and would love to keep at it, (3) I feel like going out of my way to get things I want, (4) I feel like going all-out to get things I want, and (5) I feel like using a “no holds barred” approach to go after things I want.

I conduct manipulation checks and other construct checks with two supplementary experiments. I conduct these checks in supplementary experiments rather than post-experimentally because doing so allows me to examine how each manipulation in isolation affects the construct of interest, without contaminating participants' interpretation of the manipulations. Each of the supplementary experiments proceeds exactly as described above, except that participants are exposed to only one of the manipulations (i.e., either the Earnings News manipulation or the Disclosure Focus Manipulation) rather than both manipulations, and then immediately respond to the manipulation checks and other construct checks discussed below.

*3.2.1.1 Earnings news manipulation.* After reading the earnings release and analyst report that contains the Earnings News manipulation, participants respond to a question that asks them to characterize ProCom's performance during the year as good or bad. Participants respond on a 101-point slider scale ranging from "Bad" to "Good", with the midpoint anchored at "Neither good nor bad". An untabulated analysis confirms that participants assigned to the bad news condition characterize ProCom's performance as worse than do participants assigned to the good news condition [ $t(57)=9.97$ ;  $p\text{-value}<0.001$ ]. Participants in the bad news condition on average characterize ProCom's performance as lower than the midpoint [Mean difference from midpoint: 21.3;  $t(29) = 6.59$ ;  $p\text{-value} < 0.001$ ]. Participants in the good news condition on average characterize ProCom's performance as higher than the midpoint [Mean difference from midpoint: 25.7;  $t(28) = 7.49$ ;  $p\text{-value} < 0.001$ ]. These analyses suggest that the Earnings News manipulation was successful.

*3.2.1.2 Disclosure focus manipulation.* After reading the shareholder letter that contains the Disclosure Focus manipulation, participants respond to four questions. The first question asks participants whether, in the shareholder letter, ProCom focuses more on positive outcomes that ProCom would like to achieve or negative outcomes that ProCom would like to avoid. Participants respond on a 101-point slider scale ranging from “Negative outcomes that ProCom would like to avoid” to “Positive outcomes that ProCom would like to achieve”. As expected, participants assigned to the opportunity-focused condition rate the letter as more focused (less focused) on positive outcomes (negative outcomes) than do participants assigned to the challenge-focused condition [ $t(61)=5.25$ ;  $p\text{-value}<0.001$ ].

Participants then respond to three questions designed to capture the extent to which the Disclosure Focus manipulation affected participants’ interpretation of ProCom’s future plans. As discussed above, I take steps to manipulate the presentation of ProCom’s shareholder letter without manipulating the content of ProCom’s future plans. To ensure that I am successful in this regard, I ask participants three questions about the three strategic initiatives announced by ProCom in the shareholder letter.<sup>8</sup> Participants indicate the extent to which they believe ProCom will pursue these initiatives on a 101-point scale ranging from “Definitely will not pursue this initiative” to “Definitely will pursue this initiative”. Untabulated analyses confirm that participants assigned to the challenge-focused condition do not differ from participants assigned to the opportunity-focused condition in their responses to any of the three

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<sup>8</sup> The three strategic initiatives described in these questions are: (1) “invest in new digital technologies”, (2) “cut unnecessary expenditures and make only necessary expenditures”, and (3) “exit auxiliary businesses that are unprofitable”.

questions (all p-values > 0.10). Overall, these analyses suggest that the Disclosure Focus manipulation successfully manipulates the presentation of ProCom's future plans without affecting the content of those future plans.

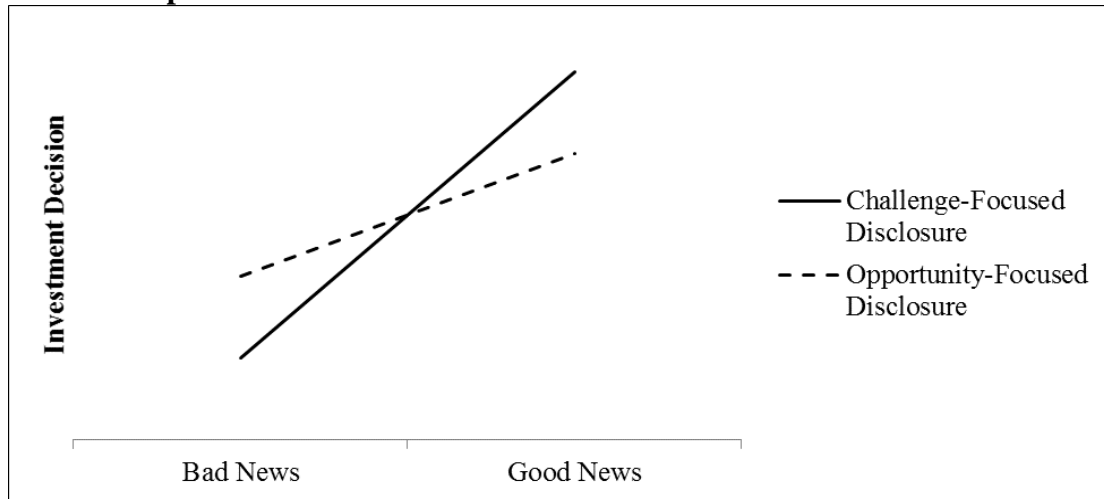
### 3.2.2 Tests of Hypotheses

Experiment 1 tests the effect of the overall process outlined in Figure 1 and predicted in H1, which states that when a firm is performing well (poorly), investors will invest more when that firm focuses on challenges (opportunities) in future-oriented disclosures rather than opportunities (challenges). I test this hypothesis by conducting a 2 x 2 ANOVA with *Earnings News* and *Disclosure Focus* as the independent variables and investment decision as the dependent variable. I report descriptive statistics for participants' investment decisions in Table 1, Panel A, and plot mean investment decisions in Figure 2, Panel B.

As shown in Figure 2, Panel A, H1 predicts that *Earnings News* and *Disclosure Focus* interact to influence investors' investment decisions. Table 1, Panel B provides the results of an ANOVA with investment decision as the dependent variable and *Earnings News* and *Disclosure Focus* as the independent variables. As seen in the table, the predicted interaction is significant (p-value = 0.004, one-tailed). This result provides support for my prediction in H1.

**Figure 2. Experiment 1 Predictions and Results**

**Panel A: Experiment 1 Predictions**



**Panel A: Experiment 1 Results**

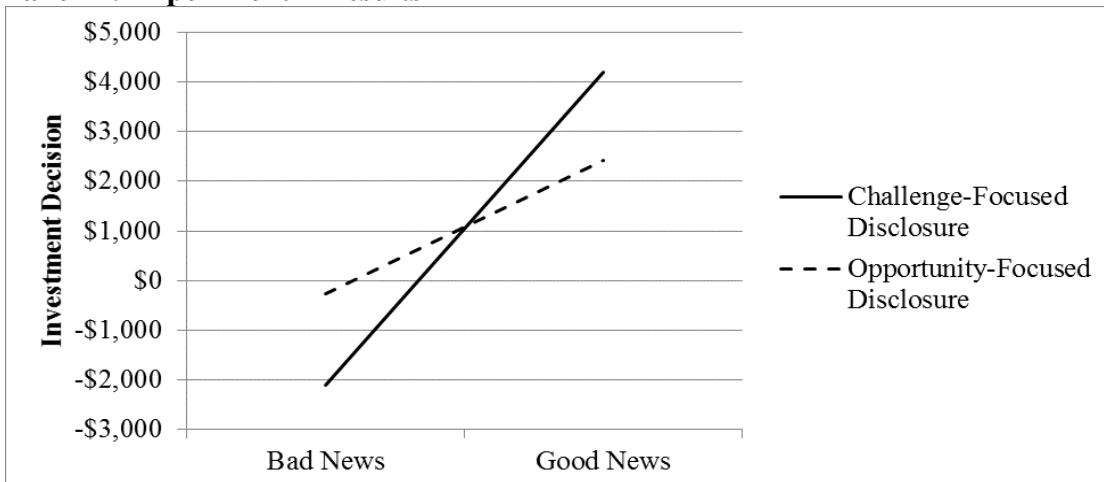


Figure 2 illustrates predictions and results for Experiment 1. In the experiment, 107 individuals assume the role of investor, read a firm’s earnings release and letter to shareholder, and make an investment decision. I manipulate whether the firm reports bad or good news in its earnings release (see Appendix B) and whether the firm focuses on challenges or opportunities in its letter to shareholders (see Appendix C). Participants indicate whether, based on the disclosures provided, they will increase, decrease, or maintain their investment in the firm, on a scale from “Decrease by \$10,000” to “Increase by \$10,000”.

**Table 1. Experiment 1 Results**

<b>Panel A: Mean investment [median] (standard deviation)</b>				
		<b>Disclosure Focus Condition</b>		
		Challenge-Focused Disclosure	Opportunity-Focused Disclosure	Total
<b>Earnings News Condition</b>	Bad News	-\$2,105 [-\$2,401] (\$3,885) n=26	-\$259 [\$0] (\$3,121) n=28	-\$1,148 [-\$897] (\$3,598) n=54
	Good News	\$4,189 [\$5,000] (\$2,694) n=27	\$2,411 [\$2,582] (\$4,171) n=26	\$3,317 [\$3,070] (\$3,577) n=53
	Total	\$1,102 [\$1,121] (\$4,580) n=53	\$1,026 [\$465] (\$3,871) n=54	\$1,064 [\$1,002] (\$4,217) n=107

<b>Panel B: Analysis of Variance</b>			
<i>Source</i>	<i>d.f.</i>	<i>F-Statistic</i>	<i>p-value</i>
Earnings News	1	43.46	<0.001
Disclosure Focus	1	0.01	0.937
Earnings News * Disclosure Focus	1	7.15	<b>0.004</b>

<b>Panel C: Follow-Up Simple Effects</b>			
<i>Test</i>	<i>t-statistic</i>	<i>p-value</i>	
Effect of Focus When News is Bad	-1.93	<b>0.028</b>	
Effect of Focus When News is Good	1.85	<b>0.034</b>	

Table 1 presents descriptive statistics and analyses for Experiment 1. In the experiment, 107 investors assume the role of investor, read a firm’s earnings release and letter to shareholder, and make an investment decision. I manipulate whether the firm reports bad or good news in its earnings release (see Appendix B) and whether the firm focuses on challenges or opportunities in its letter to shareholders (see Appendix C). Participants indicate whether, based on the disclosures provided, they will increase, decrease, or maintain their investment in the firm, on a scale from “Decrease by \$10,000” to “Increase by \$10,000”. Bolded p-values are one-sided equivalent p-values, given my directional predictions.

Table 1, Panel C provides tests of the simple effects predicted in H1. Results indicate that, when news is bad, participants invest more in a firm that focuses on opportunities rather than challenges (p-value = 0.028, one-tailed).<sup>9</sup> Results also indicate that, when news is good, participants invest more in a firm that focuses on challenges rather than opportunities (p-value = 0.034, one-tailed). Thus, the specific pattern of results in Experiment 1 is consistent with that predicted in H1 and depicted in Figure 2, Panel A.

### 3.2.3 Additional Analysis

*3.2.3.1 Ruling Out Alternative Explanations.* My theory attributes the interaction between *Earnings News* and *Disclosure Focus* as driven by investors' beliefs about the benefits of unrealistic managerial optimism. As a supplementary analysis, I analyze whether *Earnings News* and *Disclosure Focus* instead jointly impact participants' attributions about the competence, trustworthiness, or risk calibration of ProCom's management. To do this, I conduct separate ANOVAs with *Earnings News* and *Disclosure Focus* as independent variables and competence, trust, and risk calibration as dependent variables. Untabulated results indicate no significant interaction between *Earnings News* and *Disclosure Focus* for any of these three variables (all p-values > 0.10).<sup>10</sup> Thus, the interactive effect of *Earnings News* and

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<sup>9</sup> When I include the three participants who do not live in the United States and do not speak English in the analysis, this test of simple effects reveals a marginally significant interaction (p=0.055, one-tailed). All other results are inferentially identical.

<sup>10</sup> These analyses do indicate some significant main effects. As would be expected, participants view ProCom's management as more competent and trustworthy when the firm reports good news than when the firm reports bad news (p-value < 0.001). Interestingly, participants also view ProCom's management as more trustworthy when they focus on challenges than when they focus on opportunities (p-value = 0.001).

*Disclosure Focus* documented above does not appear to operate through investors' attributions about management's competence, trust, or risk calibration.

An alternative possibility is that current-period performance shapes investors' mood and/ or "regulatory focus" (i.e., the extent to which people are sensitive to the presence or absence of gains, see Higgins 2000), which in turn shapes how investors process future-oriented disclosures. I investigate these possibilities in two ways. First, I conduct a supplementary experiment in which I manipulate *Earnings News* and measure participants' regulatory focus with Higgins et al's (2001) Regulatory Focus Questionnaire. Untabulated results indicate no significant effect of *Earnings News* on participants' regulatory focus. Second, I conduct a 2 x 2 ANOVA with *Earnings News* and *Disclosure Focus* as independent variables and a composite measure of participants' mood/ motivation as the dependent variable. Untabulated results indicate no significant main effect of *Earnings News* or interaction between *Earnings News* and *Disclosure Focus*. Thus, the interactive effect of *Earnings News* and *Disclosure Focus* does not appear to operate through participants' mood and/or regulatory focus.

*3.2.3.2 Investment Decision Re-Assessment.* In phase four of the experiment, participants view the letter to shareholders that they did not view during the main part of the experiment (either a challenge-focused disclosure or opportunity-focused disclosure) and are asked to re-assess their investment decision assuming they had received the alternative disclosure. I measure participants' change in investment decision from these two phases of the task. To the extent that investors are aware that a firm's current-period performance shapes how they evaluate future-oriented disclosures, I would expect to see *Earnings News* and *Disclosure Focus* jointly impact



the change in participants' investment decisions. In particular, I would expect that when news is bad, participants who originally saw an opportunity-focused (challenge-focused) disclosure are more likely to decrease (increase) their investment when they see a challenge-focused (opportunity-focused) disclosure during phase 4 of the experiment. In contrast, I would expect that when news is good, participants who originally saw an opportunity-focused (challenge-focused) disclosure are more likely to increase (decrease) their investment when they see a challenge-focused (opportunity-focused) disclosure during phase 4 of the experiment.

I conduct an ANOVA with *Earnings News* and *Disclosure Focus* as independent variables and the change in participants' investment decisions as the dependent variable. Untabulated analyses reveal a marginally significant interaction (p-value = 0.073, two-tailed). The pattern of this interaction is consistent with participants being aware that a firm's current-period performance shapes how they evaluate future-oriented disclosure. However, it also provides some evidence that participants are not aware of the full extent of this effect. In particular, this interaction is smaller and weaker than the one documented in Table 1, suggesting that participants do not fully adjust for the effect documented above.

To provide additional insight on whether participants are aware of the full extent to which current-period performance shapes how they evaluate future-oriented disclosures, I examine participants' raw investment decisions from the re-assessment phase of the task. To the extent that participants are fully aware of the predicted influence, I would expect to see an interaction between *Earnings News* and *Disclosure Focus* in the opposite pattern of the one seen in Figure 2 and tested in Table 1.

However, untabulated analyses reveal that this interaction is not significant (p-value > 0.10). This result again provides evidence that participants are not aware of the full extent to which a firm's current-period performance influences how they respond to future-oriented disclosures.

## CHAPTER 4

### EXPERIMENT 2

Experiment 2 tests the first link in the causal chain depicted in Figure 1. In particular, Experiment 2 tests whether a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism.

#### ***4.1 Method***

##### *4.1.1 Participants*

I recruited participants from the AMT online marketplace. Fifty-nine individuals complete the experiment in exchange for \$0.75 payment.<sup>11</sup> These participants, on average, report that they are 33.0 years old, have 12.7 years of work experience, and have taken 1.5 accounting and 1.3 finance courses. 58.6% of participants have invested in stock in the past, and 72.9% of participants plan on investing in the future. I create worker qualifications in AMT to ensure that AMT workers do not participate in more than one of the related experiments discussed in this paper.

##### *4.1.2 Design and Overview*

I conduct a 1x2 between-subjects experiment in which I manipulate current-period performance and measure participants' beliefs about the benefits of managerial optimism.

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<sup>11</sup> Compensation differed between the three experiments because the experiments differ in length. I attempted to pay participants the same amount per unit of time across the three experiments.

The beginning of Experiment 2 is identical to that of Experiment 1.

Participants assume the role of an investor in ProCom and are asked to assume that they have already invested \$10,000 of their savings in ProCom and are considering whether to increase, decrease, or maintain this investment. They then read background information about ProCom and its industry.

The experiment consists of two phases. In the first phase, participants read ProCom's most recent earnings release and analyst report. This phase is identical to the first phase in Experiment 1. In the second phase of the experiment, participants provide judgments about the benefits of managerial optimism.

#### *4.1.3 Independent Variables*

*4.1.3.1 Earning News Manipulation.* The earnings news manipulation is the same as the one used in Experiment 1.

#### *4.1.4 Dependent Variable*

*4.1.4.1 Beliefs about the Benefits of Managerial Optimism.* Participants answer two questions that together measure participants' beliefs about whether ProCom's management can best achieve success by being more or less optimistic about the future. I model these questions after questions used by Tenney et al. (2015) to capture an identical construct. Tenney et al. (2015) validate their measure using other measures of this construct, and argue that their measure more precisely captures the construct of interest than other available measures.<sup>12</sup> Participants are first

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<sup>12</sup> In particular, Tenney et al. (2015) replicate their research with a measure used by Armor et al. (2008) to capture prescriptions for optimism. Armor et al. (2008) ask participants whether it would be best for a protagonist to be optimistic or pessimistic about their chances of success on a scale from -4 (extremely pessimistic) through 0 (accurate) to 4 (extremely optimistic). Tenney et al. (2015) argue that their measure is preferred over the Armor et al. (2008) measure because it "allows [the authors] to ask

prompted to answer the following question: “Taking into account ProCom’s recent performance, what do you think is the likelihood that ProCom management will achieve success in the upcoming year”. Participants use a slider to indicate their answer on a 101-point scale ranging from 0% chance of success to 100% chance of success. Participants then are prompted to answer the following question: “You indicated on the previous page that you think ProCom management’s true chance of success in the upcoming year is [X]%. In order to be successful, what should ProCom management *think* is their true chance of success in the upcoming year?” Participants use the same scale to respond as before, and I subtract the first measure from the second as a measure of participants’ beliefs about the benefits of managerial optimism.

## **4.2 Results**

### *4.2.1 Tests of Hypotheses*

Experiment 2 tests the first link in the causal chain depicted in Figure 1. In particular, Experiment 2 tests whether investors believe that managers can best achieve success by being more realistic and less optimistic about the future when a firm is performing well and believe that managers can best achieve success by being more optimistic and less realistic about the future when a firm is performing poorly, as predicted in H2 and shown in Figure 2, Panel A.

I test this hypothesis by conducting a 1 x 2 ANOVA with *Earnings News* as the independent variable and participants’ beliefs about the benefits of managerial optimism as the dependent variable. Table 2, Panel A reports descriptive statistics for

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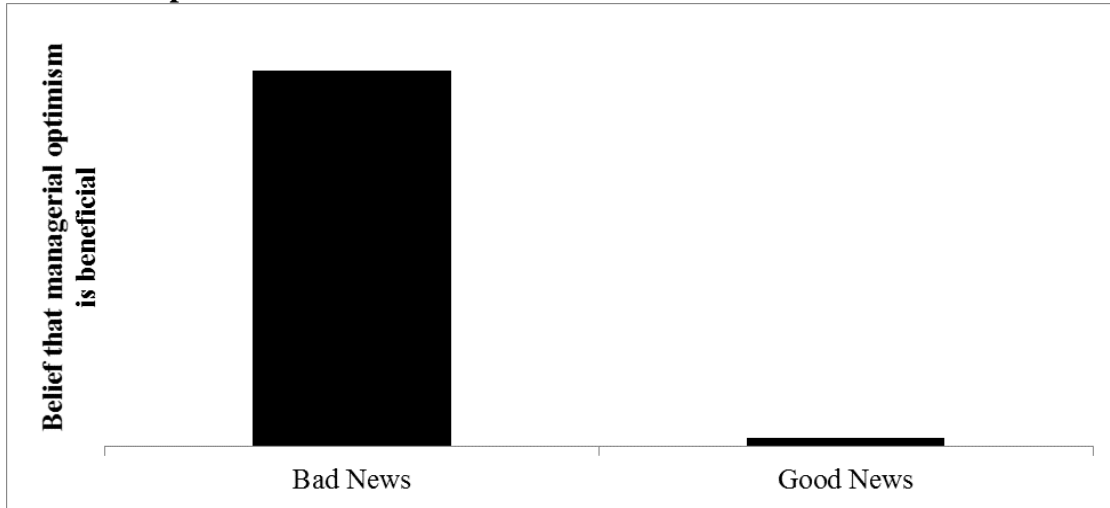
participants precisely how much optimism they prescribe” and “allows [the authors] to compare participants’ prescriptions with an accuracy standard [the accuracy standard that participants themselves provide]” (p. 379).

participants' beliefs about the benefits of managerial optimism. The first two columns in Table 2, Panel A report descriptive statistics for the two questions that allow me to measure participants' beliefs about the benefits of managerial optimism, and the final column reports descriptive statistics for participants' beliefs about the benefits of managerial optimism. I plot participants' beliefs about the benefits of managerial optimism by experimental condition in Figure 3, Panel B.

H2 predicts that *Earnings News* will influence participants' beliefs about the benefits of managerial optimism. Table 2, Panel B provides the results of an ANOVA with *Earnings News* as the independent variable and beliefs about the benefits of managerial optimism as the dependent variable. As seen in the table, the predicted main effect of *Earnings News* is significant (p-value < 0.001, one-tailed). Participants believe that managers can best achieve success by being more optimistic and less realistic when the firm reports bad news and believe that the firm can best achieve success by being more realistic and less optimistic when the firm reports good news. These results support my prediction in H2.

**Figure 3. Experiment 2 Predictions and Results**

**Panel A: Experiment 2 Predictions**



**Panel B: Experiment 2 Results**

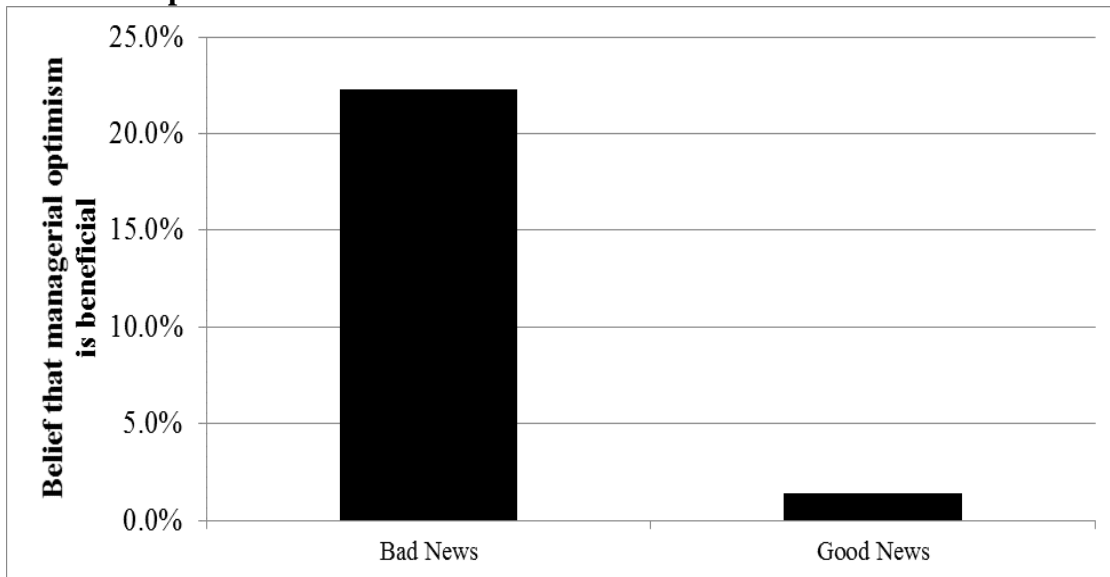


Figure 3 illustrates predictions and results for Experiment 2. In the experiment, 59 individuals assume the role of investor, read a firm’s earnings release, and make judgments about the benefits of managerial optimism. I manipulate whether the firm reports bad or good news in its earnings release (see Appendix B). After reading the earnings release, participants indicate what they think is the likelihood that ProCom management will achieve success in the upcoming year, on a scale from “0% chance of success” to “100% chance of success”. Participants then indicate what firm management, in order to be successful, should *think* is their true chance of success in the upcoming year, on the same scale. I subtract the first measure from the second as a measure of participants’ beliefs about whether managers can best achieve success by being optimistic or realistic about the future.

**Table 2. Experiment 2 Results**

<b>Panel A: Mean response [median] (standard deviation)</b>				
	<b>Dependent Measure</b>			
	What is ProCom's true chance of success? (A)	To be successful, what should ProCom management <i>think</i> is the true chance of success? (B)	Belief in the benefits of managerial optimism (B - A)	
<b>Earnings News Condition</b>	Bad News	43.4% [40.0%] (18.6%) n=30	65.6% [72.0%] (\$28.5%) n=30	22.3% [18.5%] (26.3%) n=30
	Good News	72.2% [73.0%] (9.8%) n=29	73.6% [76.0%] (16.5%) n=29	1.4% [0.0%] (14.9%) n=29
	Total	57.6% [61.0%] (20.8%) n=59	69.6% [75.0%] (23.5%) n=59	12.0% [9.0%] (23.7%) n=59

**Panel B: Analysis of Variance**

<i>Source</i>	<i>d.f.</i>	<i>F-Statistic</i>	<i>p-value</i>
Earnings News	1	13.97	<b>&lt;0.001</b>

Table 2 presents descriptive statistics and analyses for Experiment 2. In the experiment, 59 individuals assume the role of investor, read a firm's earnings release, and make judgments about the benefits of managerial optimism. I manipulate whether the firm reports bad or good news in its earnings release (see Appendix B). After reading the earnings release, participants indicate what they think is the likelihood that ProCom management will achieve success in the upcoming year, on a scale from "0% chance of success" to "100% chance of success". Participants then indicate what firm management, in order to be successful, should *think* is their true chance of success in the upcoming year, on the same scale. I subtract the first measure from the second as a measure of participants' beliefs about whether managers can best achieve success by being optimistic or realistic about the future. Bolded p-values are one-sided equivalent p-values, given my directional predictions.



## CHAPTER 5

### EXPERIMENT 3

Experiment 3 tests the second link in the causal chain depicted in Figure 1. Specifically, Experiment 3 tests whether investors' beliefs about the benefits of managerial optimism shape how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures.

#### **5.1 Method**

##### *5.1.1 Participants*

I recruited participants from the AMT online marketplace. One hundred fourteen individuals complete the experiment in exchange for \$1.00 payment. I exclude six individuals who spend little time reading my narrative-based manipulations, leaving me with a final sample of 108 individuals.<sup>13</sup> These participants, on average, report that they are 32.2 years old, have 11.9 years of work experience, and have taken 1.7 accounting and 1.3 finance courses. 65.7% of participants have invested in stock in the past, and 86.1% of participants plan on investing in the future. As noted above, I create worker qualifications in AMT to ensure that AMT workers can only participate in one of the experiments discussed in this paper.

##### *5.1.2 Design and Overview*

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<sup>13</sup> These participants, on average, spend one minute and eighteen seconds on the entire experiment, including the portion of the experiment where they read background information, make an investment decision, and answer the 9 demographic questions at the end of the experiment. Thus, it's unlikely these participants were able to completely process my narrative-based manipulations. However, results are very similar when including these participants. I note below all instances in which results differ when including these six participants.

I conduct a 2x2 between-subjects experiment in which I measure participants' investment decisions and manipulate (1) participants' beliefs about the benefits of managerial optimism and (2) whether investors read challenge-focused or opportunity-focused disclosures.

The beginning of Experiment 3 is identical to that of Experiment 1 and Experiment 2. Participants assume the role of an investor in ProCom and are asked to assume that they have already invested \$10,000 of their savings in ProCom and are considering whether to increase decrease, or maintain this investment. They then read background information about ProCom and its industry.

The experiment consists of three phases. In the first phase, participants read an article describing the benefits of either managerial optimism or managerial realism. I use this phase of the experiment to manipulate participants' beliefs about whether managers can best achieve success by being more or less optimistic about the future. In the second phase, participants read ProCom's letter to shareholders, which focuses either on challenges or opportunities. This phase of the experiment is identical to the second phase of Experiment 1. In the third phase of the experiment, participants make an investment decision. I provide additional information about these phases of the experiment below.

### *5.1.3 Independent Variables*

*5.1.3.1 Beliefs manipulation.* In order to manipulate investors' beliefs about the benefits of managerial optimism, I need to manipulate their beliefs about whether managers can best achieve success by being more or less optimistic about the future. To do this, I assign participants to either read an article describing the benefits of

managerial optimism or to read an article describing the benefits of managerial realism. I model these articles after actual articles available on the web ([www.entrepreneur.com/article/231549](http://www.entrepreneur.com/article/231549) for optimism and [www.inc.com/millennial-entrepreneurs/why-the-best-entrepreneurs-are-closet-pessimists.html](http://www.inc.com/millennial-entrepreneurs/why-the-best-entrepreneurs-are-closet-pessimists.html) for realism.)<sup>14</sup>

See Appendix D for experimental materials related to this manipulation.

*5.1.3.2 Disclosure focus manipulation.* The disclosure focus manipulation is identical to the one described above for Experiment 1.

#### *5.1.4 Dependent Variables*

*5.1.4.1 Investment Decision.* In phase three of the experiment, participants are asked to make an investment decision. This measure is identical to the one described above for Experiment 1.

## **5.2 Results**

### *5.2.1 Tests of Hypotheses*

Experiment 3 tests the second link of the causal chain depicted in Figure 1. Specifically, Experiment 3 tests whether investors who believe that managers can best achieve success by being more (less) optimistic about the future invest more when the firm focuses on opportunities (challenges) in future-oriented disclosures rather than challenges (opportunities), as predicted in H3 and shown in Figure 4, Panel A. I test this hypothesis by conducting a 2 x 2 ANOVA with *Beliefs* and *Disclosure Focus* as the independent variables and investment decision as the dependent variable. I report

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<sup>14</sup> Note that I manipulate participants' beliefs about the benefits of optimism by exposing participants to different persuasive arguments, not by deceiving them. The statements made in each of the articles are based on peer-reviewed research on optimism and emotion. The quotes in the articles are taken from articles available on the web. Thus, both of the articles included in this experiment present fact-based persuasive arguments about the benefits of managerial optimism.

descriptive statistics for participants' investment decisions in Table 3, Panel A, and plot mean investment decisions in Figure 4, Panel B.

H3 predicts that *Beliefs* and *Disclosure Focus* will interact to influence investors' investment decisions. Table 3, Panel B provides the results of an ANOVA with *Beliefs* and *Disclosure Focus* as the independent variables and investment decision as the dependent variable. As seen in the table, the predicted interaction is significant (p-value = 0.026, one-tailed).<sup>15</sup> This result suggest that investors' beliefs about the benefits of managerial optimism shape how investors evaluate firms that focus on either challenges or opportunities in future-oriented disclosures.

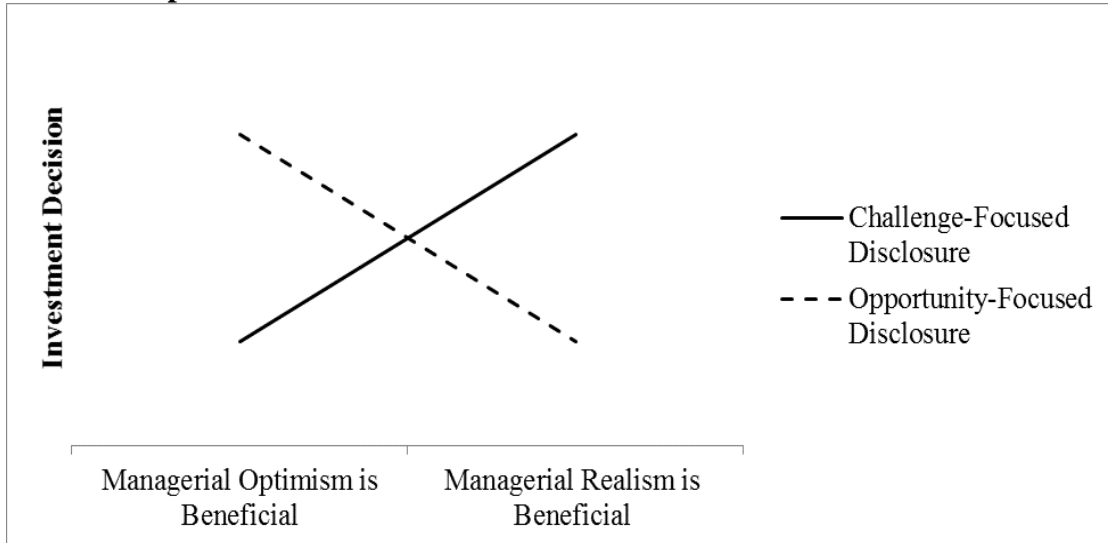
Table 3, Panel C provides tests of the simple effects predicted in H3. Results indicate that participants invest more in a firm that focuses on opportunities rather than challenges after reading an article describing the benefits of managerial optimism (p-value = <0.001, one-tailed). However, results do not indicate that participants invest more in a firm that focuses on challenges rather than opportunities after reading an article describing the benefits of managerial realism (p-value = 0.575). I conjecture that this latter result may have occurred because people generally have very strong lay beliefs that optimism is beneficial (Tenney et al. 2015), and the article describing the benefits of realism decreased but did not completely eliminate participants' beliefs that managerial optimism is beneficial. The results of Experiment 1 and Experiment 2 suggest that a firm's good current-period performance is more effective at completely eliminating participants' beliefs about the benefits of managerial optimism.

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<sup>15</sup> When I include the six participants who spent very little time reading my narrative-based manipulations, this test yields a marginally-significant interaction (p-value = 0.058, one-tailed). All other results are inferentially identical.

**Figure 4. Experiment 3 Predictions and Results**

**Panel A: Experiment 3 Predictions**



**Panel B: Experiment 3 Results**

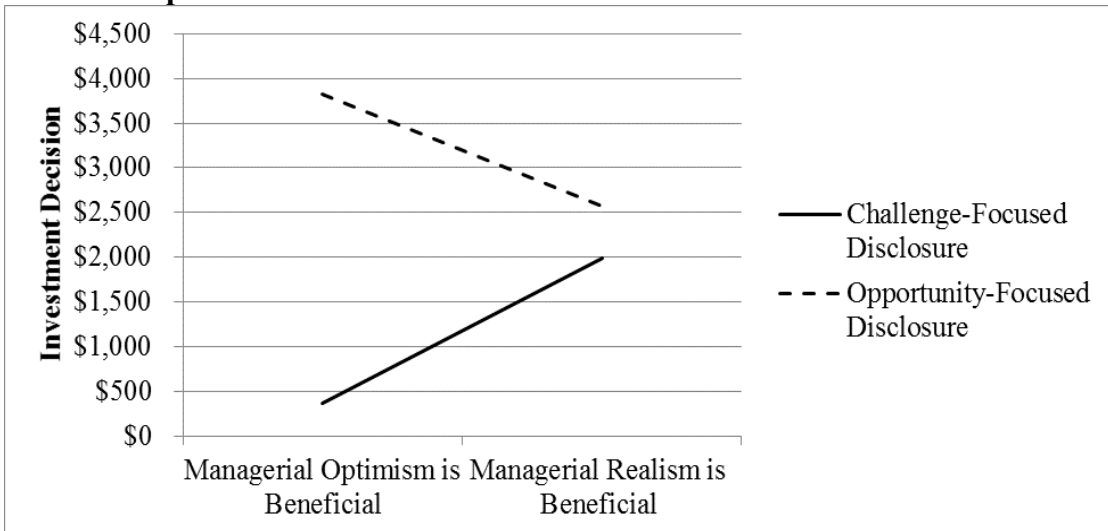


Figure 4 illustrates predictions and results for Experiment 3. In the experiment, 108 individuals assume the role of investor, read an article about optimism and a firm’s letter to shareholder, and make an investment decision. I manipulate participants’ beliefs about the benefits of managerial optimism by asking them to read an article describing the benefits of either managerial optimism or managerial realism (see Appendix D). I also manipulate whether the firm focuses on challenges or opportunities in its letter to shareholders (see Appendix C). Participants indicate whether, based on the disclosures provided, they will increase, decrease, or maintain their investment in the firm, on a scale from “Decrease by \$10,000” to “Increase by \$10,000”.

**Table 3. Experiment 3 Results**

<b>Panel A: Mean investment [median] (standard deviation)</b>				
	<b>Disclosure Focus Condition</b>			
	<b>Challenge-Focused Disclosure</b>	<b>Opportunity-Focused Disclosure</b>	<b>Total</b>	
<b>Beliefs Condition</b>	Managerial Optimism is Beneficial	\$359 [\$814] (\$3,657) n=28	\$3,823 [\$4,359] (\$3,546) n=25	\$1,993 [\$2,000] (\$3,974) n=53
	Managerial Realism is Beneficial	\$1,986 [\$1,548] (\$3,700) n=26	\$2,563 [\$2,977] (\$4,200) n=29	\$2,290 [\$2,698] (\$3,946) n=55
	<b>Total</b>	\$1,142 [\$992] (\$3,734) n=54	\$3,146 [\$3,349] (\$3,926) n=54	\$2,144 [\$2,294] (\$3,944) n=108

<b>Panel B: Analysis of Variance</b>			
<i>Source</i>	<i>d.f.</i>	<i>F-Statistic</i>	<i>p-value</i>
Beliefs	1	0.06	0.802
Disclosure Focus	1	7.62	0.007
Beliefs * Disclosure Focus	1	3.89	<b>0.026</b>

<b>Panel C: Follow-Up Simple Effects</b>			
<i>Test</i>	<i>t-statistic</i>	<i>p-value</i>	
Effect of Focus When Managerial Optimism is Beneficial	-3.32	<b>&lt;0.001</b>	
Effect of Focus When Managerial Realism is Beneficial	-0.56	<b>0.575</b>	

Table 3 illustrates predictions and results for Experiment 3. In the experiment, 108 individuals assume the role of investor, read an article about optimism and a firm’s letter to shareholder, and make an investment decision. I manipulate participants’ beliefs about the benefits of managerial optimism (see Appendix D) and whether the firm focuses on challenges or opportunities in its letter to shareholders (see Appendix C). Participants indicate whether, based on the disclosures provided, they will increase, decrease, or maintain their investment in the firm, on a scale from “Decrease by \$10,000” to “Increase by \$10,000”. Bolded p-values are one-sided equivalent p-values, given my directional predictions.

## CHAPTER 6

### CONCLUSION

Prior archival research implies that managers can best persuade investors by focusing on positive outcomes and not focusing on negative outcomes. I complement that research by testing whether investors' reactions to future-oriented disclosures that focus on positive and negative outcomes depend on how a firm is performing in the current period.

I argue that a firm's current-period performance shapes investors' beliefs about the benefits of managerial optimism, which in turn shapes how investors respond to future-oriented disclosures that focus on either positive outcomes (opportunities) or negative outcomes (challenges). I conduct a series of experiments that test this theoretical model. Experiment 1 tests the overall model, and Experiments 2 and 3 test each link in the model's causal chain.

Results support my predictions. When a firm is performing poorly, investors believe that managers can best achieve success by being more optimistic and less realistic about the future. Accordingly, investors are more willing to invest in poorly-performing firms that focus on opportunities rather than challenges in future-oriented disclosures. When a firm is performing well, on the other hand, investors believe that managers can best achieve success by being more realistic and less optimistic about the future. Accordingly, investors are more willing to invest in well-performing firms that focus on challenges rather than opportunities in future-oriented disclosures.

The experiments in this study abstract away from practice settings in order to emphasize the constructs that are directly relevant to my theoretical model and de-emphasize those that are not directly relevant (Bloomfield et al. 2015). Although this approach to testing theory allows me to provide strong causal evidence, it opens avenues for future research that tests the generality of my theoretical model. For example, my experiments use non-professional investors who make investment judgments based on limited firm information. Prior research provides evidence that financial literacy moderates investors' reactions to tone in disclosures of past performance (Tan et al. 2014). Thus, future research may wish to also examine how financial literacy moderates investors' reactions to the interaction of past performance and tone in future-oriented disclosures. In addition, my experiments use a one-period setting in which investors have little opportunity to learn whether their beliefs about the benefits of managerial optimism are justified, and modify their behavior accordingly. Future research can examine the extent to which a multi-period setting allows investors to recognize and modify their intuitive judgments about the benefits of managerial optimism.

My experiments focus on a specific setting in order to disentangle constructs that prior archival research does not disentangle. In particular, I examine a setting in which managers discuss their plans and strategies for the future. I believe that two attributes of this setting are key in driving my predictions and results. First, in my setting managers discuss the future and not the past. My predictions rely on theories about optimism, which is an inherently forward-looking construct. Accordingly, my results do not generalize to settings in which managers discuss the past rather than the



future (e.g., see Tan et al. 2014). Second, in my setting managers discuss their plans for altering controllable aspects of performance and do not discuss their predictions about uncontrollable aspects of performance. My hypotheses rely on theories about how managerial optimism can lead managers to neglect controllable aspects of performance. Accordingly, my results may not generalize to settings in which managers discuss their predictions about uncontrollable aspects of performance. Future research can examine how investors respond in settings that differ from mine in these respects.

By conducting a series of experiments that tests each link in the hypothesized causal chain, I am able to provide strong evidence on one causal path that contributes to the effect observed in Experiment 1. However, an inherent limitation of this approach is that I cannot rule out the possibility that other causal paths may also contribute to the effect observed in Figure 1. Future research can explore whether other such causal paths exist, as well as the relative importance of potential competing causal paths in explaining the observed effect.

Future research can also examine how a firm's current-period performance shapes how investors evaluate other elements of future-oriented disclosures. My paper focuses on how investors react to one element of future-oriented disclosures—whether firms focus on challenges or opportunities. However, the theory presented in this paper applies to other elements of future-oriented disclosures, such as vocal emotion in conference calls (Mayew and Venkatachalam 2012) and other nonverbal behavior in rich disclosure settings (e.g., Blankespoor et al. 2015).

Overall, this paper makes five main contributions to the accounting, finance and psychology literatures. First, it challenges a notion in the accounting and finance

literatures that investors always react positively to “positive” disclosure tone and negatively to “negative” disclosure tone (Lang and Lundholm 2000; Henry 2008; Li 2010; Davis et al. 2012; Price et al. 2012; Davis et al. 2015). While prior research identifies a main effect of tone, I provide evidence that tone interacts with a key environmental factor – current-period performance. Although archival measures of tone would categorize my manipulation as capturing “positive” or “negative” tone, my results diverge from the main finding in the archival literature. In particular, I provide evidence of circumstances in which investors predictably react positively to negative tone and negatively to positive tone. Also, as noted above, archival measures of tone capture both the content and presentation of a firm’s past performance and future plans, whereas I disentangle these constructs and focus on the presentation of a firm’s future plans. Thus, my results suggest that the broad measures of tone used in prior archival research may mask how investors react to the manner in which firms present their plans and strategies in future-oriented disclosures.

Second, this research contributes to the accounting literature on unrealistic managerial optimism and overconfidence. Prior literature examines how managerial optimism impacts the decisions of managers, and provides evidence that managerial optimism causes managers to make sub-optimal operational and reporting decisions (e.g., see Camerer and Lovallo 1999; Malmendier and Tate 2005; Billett and Qian 2008; Libby and Rennekamp 2012; Hribar and Yang 2015; Schrand and Zechman 2012; Asay 2015). I contribute to that literature by examining how managerial optimism impacts the decisions of investors. I provide evidence that, despite the documented costs of managerial optimism, there are circumstances in which investors

believe that managerial optimism is beneficial and make investment decisions based on those beliefs.

Third, this study provides practical recommendations to managers and investors. For managers, it provides recommendations on how to design persuasive future-oriented disclosures. Whereas managers might be tempted to focus always on positive outcomes in future-oriented disclosures, this research suggests that managers can benefit by focusing on negative outcomes following good performance, in order to signal a more realistic outlook about the future. For investors, it provides evidence on systematic ways in which they allow a firm's current-period performance to shape how they evaluate future-oriented disclosures. Although my study suggests that investors are aware of this influence, it also suggests that investors are unaware of the full extent of its influence. Thus, investors may wish to take steps to attenuate the impact of a firm's current-period performance on how they evaluate future-oriented disclosures.

Fourth, this research contributes to the psychology literature on unrealistic optimism. Prior research provides evidence that individuals believe that optimism is generally beneficial, and that certain contextual variables moderate individuals' beliefs about the benefits of optimism (Armor et al. 2008; Tenney et al. 2015). I contribute to this literature by providing evidence of a novel construct that moderates individuals' beliefs about the benefits of optimism, and by studying the downstream consequences of those beliefs.

Finally, this research contributes to the accounting literature by introducing an alternative method by which researchers can test a hypothesized theoretical process.

Accounting researchers often test a hypothesized process by conducting a single study that manipulates independent variable(s) and measures mediating and dependent variables (“mediation-by-measurement”). I introduce an alternative approach advocated by Spencer et al. (2005), in which I conduct a series of experiments that tests each link in the hypothesized causal chain. This “mediation-by-manipulation” approach to testing process avoids the limitations of “mediation-by-measurement” designs and capitalizes on the comparative advantages of experiments (Spencer et al. 2005; Libby et al. 2002).

## APPENDIX

### **Appendix A. Real-World Examples of Challenge-Focused and Opportunity-Focused Disclosures**

#### ***Panel A: Challenge-Framed Strategy from JP Morgan Chase 2014 Letter to Shareholders***

##### *Actual Disclosure (Challenge-Framed):*

“We have a huge obligation to society – not only must we never fail, but we need to be steadfast. Never failing means having the financial strength, liquidity, margins, and strong and diverse earnings where you can weather any storm. It also means having the ability to adapt, survive and even thrive through the cycles.”

##### *Alternative Disclosure (Opportunity-Framed): (Note: underlined terms have been changed from above)*

“We have a huge obligation to society – not only must we continually succeed, but we need to be steadfast. Continually succeeding means having the financial strength, liquidity, margins, and strong and diverse earnings where you can seize any opportunity. It also means having the ability to adapt, survive and even thrive through the cycles.”

#### ***Panel B: Opportunity-Framed Strategy from JP Morgan Chase 2013 Letter to Shareholders***

##### *Actual Disclosure (Opportunity-Framed):*

“So to succeed long term, we need an excellent management team. And in my opinion, your management team has the character, culture, intellect, experience and wisdom necessary to succeed.”

##### *Alternative Disclosure (Challenge-Framed): (Note: underlined terms have been changed from above)*

“So to avoid failure long term, we need an excellent management team. And in my opinion, your management team has the character, culture, intellect, experience and wisdom necessary to avoid failure.”

## Appendix B. Earnings News Manipulation

### Panel A: Bad News

#### Excerpts from ProCom's press release (issued July 22, 2015)

Seattle, Wash. –July 22, 2015 –ProCom Inc. (NASDAQ: PCOM) today announced results for the quarter ended June 30, 2015. The following table summarizes revenue and earnings performance for the quarter.

(\$ in thousands, except per share amounts)	Three Months Ended June 30,			%Y/Y Change
	2014		2015	
Revenue	\$957,722		\$890,681	-7%
Net Income	\$83,971		\$80,612	-4%
Earnings Per Share	\$0.48		\$0.46	-4%

#### Excerpts from an analyst's report following ProCom's press release (issued July 23, 2015)

<b>Quarter Ending</b>	<b>06/2015</b>
Report Date	July 23, 2015
EPS Surprise	-2%
Quarterly EPS	\$0.46

ProCom Inc. failed to impress with its fourth-quarter 2015 results, as both revenue and earnings witnessed a year-over-year decline. Furthermore, its earnings per share of \$0.46 lagged analysts' consensus expectations of \$0.47. We believe that ProCom's ability to manage its large portfolio of products will be a key factor determining its growth.

## Appendix B (continued). Earnings News Manipulation

### Panel B: Good News

Excerpts from ProCom's press release (issued July 22, 2015)

Seattle, Wash. –July 22, 2015 –ProCom Inc. (NASDAQ: PCOM) today announced results for the quarter ended June 30, 2015. The following table summarizes revenue and earnings performance for the quarter.

(\$ in thousands, except per share amounts)	Three Months Ended June 30,			
	2014		2015	% Y/Y Change
Revenue	\$832,412		\$890,681	+7%
Net Income	\$77,512		\$80,612	+4%
Earnings Per Share	\$0.44		\$0.46	+4%

Excerpts from an analyst's report following ProCom's press release (issued July 23, 2015)

<b>Quarter Ending</b>	<b>06/2015</b>
Report Date	July 23, 2015
EPS Surprise	2%
Quarterly EPS	\$0.46

ProCom Inc. impressed with its fourth-quarter 2015 results, as both revenue and earnings witnessed a year-over-year increase. Furthermore, its earnings per share of \$0.46 beat analysts' consensus expectations of \$0.45. We believe that ProCom's ability to manage its large portfolio of products will be a key factor determining its growth.

## Appendix C. Challenge-Focused or Opportunity-Focused Manipulation

### *Panel A: Challenge-Focused*

#### **Dear Fellow Shareholders,**

Today's global economy is exciting and dynamic, but it also can be tough and confusing. To avoid failure, ProCom needs to avert risks in the global landscape that will deter us from strengthening our financial position and growing.

In today's competitive market, 9 in 10 publicly traded companies in the U.S. flounder and fail within 100 years. Why do these companies fail? They do not adapt in the face of changing markets, disruptive technologies, and new business models. Companies stagnate when they are complacent. As we approach our second century as an industry leader, we will not be complacent. Today I am announcing three strategic priorities that will help us secure our future.

#### **Focusing beyond the Short-Term**

If we do not invest in new digital technologies, we will lose out on a large share of emerging digital markets and stunt the growth of our digital commerce segment. Ducking these investments may boost earnings in the short run, but it will also decrease growth in the long run. We will invest in new digital technologies because we focus beyond the short term.

#### **Avoiding Inefficiency**

Companies suffer when they allow business processes to operate inefficiently, burdened by wasteful expenses. Our second priority is to drive operational excellence, decreasing inefficiencies by avoiding any unnecessary expenditures.

#### **Escaping Complexity**

We are exiting certain auxiliary businesses that generate some revenue but ultimately erode our profits. In general, when a company does not diligently prune and simplify its businesses, it is less able to focus on what it does best. This is just simple good housekeeping. It is even more important in this environment.

In executing these strategic priorities, we know that failure is possible – only consistently good management over a long period of time can prevent failure in any business. We can do it because of the strong company we have built — global in reach, with outstanding people, expertise, capabilities, relationships and capital at the scale required to do big things.

**-Cal Merritt, President and Chief Executive Officer**



## Appendix C. Challenge-Focused or Opportunity-Focused Manipulation

### *Panel B: Opportunity-Focused*

**Dear Fellow Shareholders,**

Today's global economy is exciting and dynamic, but it also can be tough and confusing. To ensure success, ProCom needs to seize opportunities in the global landscape that will assist us in strengthening our financial position and growing.

In today's competitive market, 1 in 10 publicly traded companies in the U.S. prosper and survive for more than 100 years. Why do these companies succeed? They adapt in the face of changing markets, disruptive technologies, and new business models. Companies flourish when they are proactive. As we approach our second century as an industry leader, we will be proactive. Today I am announcing three strategic priorities that will help us advance our future.

#### **Focusing on the Long-Term**

If we invest in new digital technologies, we will gain control of a large share of emerging digital markets and sustain the growth of our digital commerce segment. Making these investments may lower earnings in the short run, but it will also increase growth in the long run. We will invest in new digital technologies because we focus on the long term.

#### **Ensuring Efficiency**

Companies thrive when they ensure that business processes operate efficiently, free of wasteful expenses. Our second priority is to drive operational excellence, increasing efficiencies by making only necessary expenditures.

#### **Seeking Simplicity**

We are exiting certain auxiliary businesses that generate some revenue but ultimately erode our profits. In general, when a company diligently prunes and simplifies its businesses, it is more able to focus on what it does best. This is just simple good housekeeping. It is even more important in this environment.

In executing these strategic priorities, we know that success is not guaranteed – only consistently good management over a long period of time can ensure success in any business. We can do it because of the strong company we have built — global in reach, with outstanding people, expertise, capabilities, relationships and capital at the scale required to do big things.

**-Cal Merritt, President and Chief Executive Officer**

## Appendix D. Beliefs about the Benefits of Managerial Optimism Manipulation

### *Panel A: Article Describing the Benefits of Managerial Optimism*

#### **Why the Best Managers Are Optimists, Not Realists**

Is it better for managers to be optimistic or realistic about the future? Emerging research suggests that managers succeed by abandoning realism and embracing optimism.

July 20, 2015

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Being a manager in today's economy is challenging. Managers must navigate into an uncertain future, where they face fierce competition and changing economic winds. Although it's tempting to believe that managers can succeed in this environment by adopting a realistic outlook about the future, recent research suggests just the opposite—managers succeed by embracing optimism. Here's why:

##### **Optimism Produces Persistence**

Every manager faces moments of adversity and failure, whether it be declining sales, botched products, or missed earnings goals. The best managers are optimistic during these moments, bouncing back from adversity with more enthusiasm than ever. "Tenacity is No. 1. So much of entrepreneurship is dealing with repeated failure. It happens many times each week," says Mike Colwell, who runs Plains Angels. Academic research largely confirms this: Managers persist longer in the face of adversity and rebound quicker from setbacks when they are optimistic, rather than realistic, about the future.

##### **Optimism Fuels Innovation**

Optimistic managers are able to maintain positive emotions as they pursue their goals. Numerous studies show that these emotions expand the brain's capacity to think broadly and find creative solutions. Thus, an optimistic manager is a creative manager, who responds to difficult problems with an innovative approach.

##### **Optimism is Contagious**

By embracing optimism, managers can create a culture of optimism within their organizations. This allows the entire organization to embrace optimism and reap its benefits. "Optimism is essential to being an effective leader and creating a shared vision. Without it, there is no hope, no reason to stretch, and no belief that an organization can rally to achieve its vision," says Margaret Greenberg, president of the Greenberg Group.

## Appendix D (continued). Beliefs about the Benefits of Managerial Optimism Manipulation

### *Panel B: Article Describing the Benefits of Managerial Realism*

#### **Why the Best Managers Are Realists, Not Optimists**

Is it better for managers to be realistic or optimistic about the future? Emerging research suggests that managers succeed by abandoning optimism and embracing realism.

July 20, 2015

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Being a manager in today's economy is challenging. Managers must navigate into an uncertain future, where they face fierce competition and changing economic winds. Although it's tempting to believe that managers can succeed in this environment by adopting an optimistic outlook about the future, recent research suggests just the opposite—managers succeed by embracing realism. Here's why:

#### **Realism Produces Good Decisions**

Every manager faces moments of adversity and failure, whether it be declining sales, botched products, or missed earnings goals. The best managers are realistic during these moments, bouncing back from adversity by making good decisions. "If you think about someone making a hard decision, that person doesn't want optimism. He wants accurate input," says Elizabeth Tenney, assistant professor of management. Academic research largely confirms this: Managers make better decisions when they are realistic, rather than optimistic, about the future.

#### **Realism Fuels Effort**

Realistic managers are able to experience both positive and negative emotions as they pursue their goals. Numerous studies show that these emotions help individuals increase effort and analytical reasoning when a change of course is needed. Thus, a realistic manager is a smart manager, who responds to difficult problems with increased effort and an analytical approach.

#### **Realism is Contagious**

By embracing realism, managers can create a culture of realism within their organizations. This allows the entire organization to embrace realism and reap its benefits. "By acknowledging the downside and recognizing the messy, iterative path of innovation, you liberate your team to go bigger and reach further," says Liz Wiseman, president of the Wiseman Group.

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