Investors' Reactions to Revision Restatements: An Examination of Investment Position and Quantitative Reconciliation

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Abstract

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Revision restatements are a growing phenomenon in which firms correct errors related to prior financials. Revision restatements are permitted only when firms consider the errors individually immaterial for the periods in which they occurred, but material when combined across periods. Unlike reissuance restatements, firms do not issue a stand-alone filing but instead simply correct the historical values in the next set of issued financial statements. Archival research finds that revision restatements predict negative firm outcomes, such as future material errors and material weaknesses. I draw from psychology and accounting research to predict that investors fail to fully process these restatements. Using an experiment, I find that when a firm corrects prior earnings downward, prospective investors update their beliefs more than current investors and consider the errors to be more material. When the firm makes the revision restatement easier to process by providing a quantitative reconciliation, there is a greater increase in how much prospective investors update their beliefs compared to current investors, who do not update at all. This study contributes to the emerging literature on revision restatements, the existing accounting literature on the continued influence effect, motivated reasoning and quantitative reconciliations, and the regulatory debate on materiality.

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DEDICATION

To Margo, Mummy, Papa, Subeer, Erin, Kai, Nana, Nani, and of course, Bonzi.

I. INTRODUCTION

Revision restatements grew significantly as a percentage of all restatements from 32% in 2005 to 77% in 2017 (Audit Analytics 2017). A revision restatement, also known as a "little r" restatement, occurs when a firm corrects errors related to prior periods it considers immaterial when evaluated individually for those specific periods, but material when combined across periods. Instead of making an all-at-once adjustment in the current period, which would misstate current period financials, the firm corrects the historical amounts reported in the current period financial statements.[1] Revision restatements are unique because they are one of the few times a firm discloses financial information explicitly labeled as immaterial. Thus, when a firm issues a revision restatement, investors can directly assess the materiality of errors that the firm considers immaterial in relation to prior periods. Psychology and accounting research suggest that after a revision restatement, investors may not fully update their beliefs, and this may further vary based on their directional preferences regarding the firm's performance and how the firm discloses the revision restatement. In this study, I examine whether investors' perceived materiality of the errors and how much they update their beliefs depend on their investment position and whether the firm provides a quantitative reconciliation of the misstated values to the corrected values.[2]

The continued influence effect is a cognitive bias under which incorrect information continues to influence individuals' judgments, even after they learn that the information is incorrect (Johnson and Seifert 1994; Ross and Anderson 1982; Ross, Lepper, and Hubbard 1975; Seifert 2014). In a revision restatement setting, the continued influence effect suggests that when

[1] For example, suppose a firm discovers errors related to its 2017 and 2018 financials, which it deems immaterial individually for those specific years but material when combined across the two years. The firm would then simply report the correct 2017 and 2018 amounts in the 2019 financial statements.

[2] Investors' perceived idiosyncratic risk of the firm may also increase after a revision restatement. This increase would be a rational response, given that revision restatements predict immaterial and material errors and material weaknesses (Choudhary, Merkley, and Schipper 2017). I test this empirically in my experiment, which I discuss later on in the paper.

a firm corrects previously misstated values, investors will fail to fully update their beliefs and instead will continue to rely on the misstated values when making judgments about the firm. Research suggests this will occur even when investors can correctly recall that prior financials contained misstated values that were later corrected.

I predict that the extent to which investors fail to update their beliefs will vary depending on their perceived materiality of the errors in the revision restatement. These perceptions will affect how investors interpret the errors. The theory of motivated reasoning suggests that investors have preferences for information about a firm based on whether they own shares in the firm (Kunda 1990). These preferences affect how investors analyze information and form expectations about the firm (Hales 2007; Thayer 2011). Current investors benefit from the firm's positive performance and are hurt by its negative performance. Thus, they tend to accept information that suggests the firm has performed well and will continue to do so, and tend to disregard information that suggests otherwise (Hales 2007; Thayer 2011). Prospective investors do not have preferences regarding firm performance, as they do not benefit from, nor are hurt by, the firm's performance. This line of research suggests that current and prospective investors' perceived materiality of the errors in a revision restatement will differ. I predict that, compared to current investors, prospective investors will consider errors to be more material when the message of the revision restatement does not align with current investors' preferences (e.g., the firm corrects prior earnings downward). I then expect these perceptions of materiality to affect the continued influence of the misstated values, with it being greater for current investors compared to prospective investors. Therefore, I predict that prospective investors will update their beliefs more than current investors.

One way to decrease reliance on prior errors is to make the correction easier to process (Lewandowsky et al. 2012). Accounting research has shown that providing a quantitative reconciliation of financial information makes the information easier to process (Elliott 2006; Nelson and Tayler 2007). Revision restatement disclosures vary considerably, as the SEC provides limited guidance regarding their content or style. While the SEC promotes the use of quantitative reconciliations whenever appropriate (SEC 2017), in a hand-collected random sample of 151 revision restatements between 2007 and 2016, I find that only 43% of firms provided quantitative reconciliations. While a quantitative reconciliation will make the corrections easier to process, I expect that not all investors will update their beliefs equally. Specifically, I expect that the effect of a quantitative reconciliation will vary depending on investors' directional preferences. When a firm corrects prior earnings downward, I predict that a quantitative reconciliation will cause prospective investors to update their beliefs more than current investors, as the overall message of the corrections (i.e., prior earnings decreased) is still preference-inconsistent for current investors.

In summary, my arguments yield two predictions. First, I expect that when a firm corrects misstated earnings downward and does not provide a quantitative reconciliation, prospective investors will update their beliefs more than current investors. Second, I predict that when the firm makes the revision restatement easier to process by providing a quantitative reconciliation, there will be a greater increase in how much prospective investors update their beliefs compared to current investors.[3] I test my research question using a 2 × 2 + 1 between-subjects design with a

[3] I examine a downward revision setting for multiple reasons. First, out of all revision restatements that affect net income, 70% revise net income downwards. Second, the downward revision setting is the stronger setting to examine my research question. According to prospect theory, losses hurt more than gains feel good (Tversky and Kahneman 1992). Thus, while the predictions for an upward revision will mirror the predictions for a downward revision, I expect the results to be weaker.

benchmark condition. I use senior undergraduate accounting, graduate accounting, and MBA students as participants. I manipulate investment position (current investor versus prospective investor) and whether the firm provides a quantitative reconciliation (absent versus present).

In the experiment, participants first see their investment position in a firm and then view background information about the firm, management's forecasted range of earnings per share (EPS), and financial performance for the prior two years. To set participants' expectations regarding future performance, the financial information shows that the firm's reported EPS for each year is near the highest point of management's forecasted range for those years. Next, participants view management's forecasted range of EPS for the current year and provide their forecast of the firm's EPS along with perceived firm riskiness. Participants then view a condensed version of the firm's current year 10-K, which shows that the firm's reported EPS for the current year is near the highest point of management's forecasted range for the year. However, the 10-K also contains a revision restatement. Specifically, the 10-K shows that the firm corrected EPS for the prior two years downward. These corrected EPS values for the prior two years are near the lowest points of management's forecasted ranges for those years. Next, participants view management's forecasted range of EPS for the following year and provide their estimate of the firm's following-year EPS, along with perceived firm riskiness. Finally, participants answer questions regarding their perceived materiality of the errors disclosed in the revision restatement and other post-experimental questions.[4]

Results support my predictions and show that after a firm corrects prior earnings downward, prospective investors update their beliefs marginally more than current investors.

[4] Participants in the benchmark condition assume the role of prospective investors. In the benchmark condition, participants view the correct EPS values all along. Therefore, historical financials do not contain any errors, and the current year 10-K in the benchmark condition does not contain a revision restatement.

Additionally, when the firm makes the revision restatement easier to process by providing a quantitative reconciliation, there is a greater increase in how much prospective investors update their beliefs compared to current investors, who do not update at all. Consistent with theory, I find that prospective investors perceive the errors disclosed in the revision restatement to be marginally more material compared to current investors. In supplemental analysis, I find that when the firm provides a quantitative reconciliation, only prospective investors' perceived firm riskiness increases. In exploratory analysis, I find that perceived management credibility mediates the influence of a quantitative reconciliation on how much prospective investors update their beliefs.

This study makes several contributions. First, it contributes to the restatement literature, which has focused mostly on reissuance restatements (e.g., Badertscher and Burks 2011; Drake, Myers, Scholz, and Sharp 2015; Hennes, Leone and Miller 2008; Kravet and Shevlin 2010; Palmrose, Richardson, and Scholz 2004). Recent accounting research on revision restatements finds that they are associated with future negative consequences and cause a slightly negative market reaction (Choudhary et al. 2017). These results suggest that investors should be paying attention to revision restatements and on average, investors' perceived materiality of these errors differ from those of preparers'. My study complements the archival literature by showing investors do not fully update their beliefs after revision restatements and current investors' perceptions of materiality align more closely with those of preparers'.

Second, this study extends the accounting literature that examines the continued influence effect (Tan and Koonce 2011; Tan and Tan 2008; Tan and Tan 2009). Accounting research has examined the effect of corrections and retractions on how auditors and prospective investors

process information.[5] My study contributes by showing that reliance on the corrections differs based on whether the individual has directional preferences. Additionally, my study shows that providing a quantitative reconciliation, in addition to corrections, is better for reducing the continued influence of erroneous financial information on prospective investors' judgments.

Third, my study contributes to separate streams of accounting research on quantitative reconciliations (e.g., Elliott 2006; Nelson and Tayler 2007) and motivated reasoning (e.g., Elliott, Rennekamp, and White 2017; Hales 2007; Han and Tan 2010; Harris, Jackson, and Hobson 2013; Kadous, Kennedy, and Peecher 2003; Peecher, Piercey, Rich, and Tubbs 2010; Thayer 2011). Research has found that quantitative reconciliations lower processing costs and allow investors to better integrate financial information. On the other hand, research on motivated reasoning has shown that investors are biased when evaluating information about a firm, based on whether they own shares in the firm. My study shows the effect of quantitative reconciliations is not the same for current and prospective investors. Investors' directional preferences can override the positive effects of quantitative reconciliations.

Fourth, my study offers a practical implication for standard setters. The upward trend of revision restatements, along with future negative outcomes for firms that disclose them, has led to concerns that firms either intentionally or unintentionally classify material errors as immaterial (Acito, Burks, and Johnson 2018; Chasan 2013; Choudhary et al. 2017; McCann 2016; McKenna 2013). As the SEC provides little guidance on this topic, there is great variation in how firms

[5] Tan and Koonce (2011) report a novel finding in a management forecast setting. They find that investors over-adjust their expectations if the correction of a management forecast either falls short or exceeds prior year earnings. I do not predict an over-adjustment of beliefs because Tan and Koonce (2011) state they find these results because the correction causes a change in the earnings trend (e.g., misstated forecast is greater than prior year earnings, but the corrected forecast is lower than prior year earnings). According to the SEC, corrections such as those in Tan and Koonce (2011) would make the errors material in the context of financial statements and result in a reissuance statement and not a revision restatement. Accordingly, in my experiment, corrections of previously misstated values do not cause a change in the earnings trend.

disclose revision restatements. My results suggest that standardization of revision restatements by requiring quantitative reconciliations would help prospective investors make more informed judgments.

Finally, this study adds to the regulatory and academic debate regarding the definition of materiality. The Financial Accounting Standards Board (FASB), the U.S. Securities and Exchange Commission (SEC), and the Supreme Court each define materiality differently for financial reporting. Although all three discuss materiality from the perspective of financial statement users, none provide any bright-line tests and their qualitative thresholds differ. While materiality is often considered from the user or preparer perspective, my study contributes by showing that within one user group—investors—assessments of materiality are not homogenous.

II. BACKGROUND, THEORY, AND HYPOTHESIS

A revision restatement corrects previously misstated values in financial statements that the firm considers individually immaterial for the periods in which they occurred, but material when combined across periods. Instead of making an all-at-once adjustment for the accumulated errors in the current period, which would materially misstate current period financials, the firm corrects historical financial amounts reported in its current period financial statements. For example, if a firm discovers errors in its 2017 and 2018 financials but deems those errors immaterial individually for those specific years but material when combined across the two years, it would correct the 2017 and 2018 financial amounts reported in the 2019 financial statements. The classification of these errors as individually immaterial implies that they should not affect investors' reliance on the previously stated numbers. Revision restatements are a unique setting, as they directly allow investors to evaluate the materiality of information that the

firm has deemed immaterial. Specifically, investors decide whether they should update beliefs based on the previously misstated numbers.

Revision restatements have increased as a percentage of overall restatements from 32% in 2005 to 77% in 2017 (Audit Analytics 2017).[6] Disclosures of revision restatements elicit a slightly negative price response, which suggests that, on average, investors consider these revisions to be value-relevant (Choudhary et al. 2017). Firms that issue revision restatements have increased propensities of future immaterial and material errors and future material weaknesses. Choudhary et al. (2017) conclude that investors' perceptions of the materiality of errors disclosed in revision restatements differ from preparers' perceptions—and rightfully so, given the future negative consequences. These differences in perceptions may arise because materiality does not have a precise definition and therefore requires judgment.[7, 8] Thus, understanding how much investors update their beliefs after revision restatements is important.

[6] Research on restatements has focused mostly on reissuance restatements, also known as "big R" restatements, which correct material errors that occurred in prior periods. Reissuance restatements elicit a strong negative market reaction and lead to future negative outcomes for firms, such as management turnover, low growth, increased cost of capital, and loss of credibility (e.g., Badertscher and Burks 2011; Drake et al. 2015; Efendi et al. 2007; Hennes et al. 2008; Hribar and Jenkins 2004; Kravet and Shevlin 2010; Palmrose et al. 2004; Palmrose and Scholz 2004).

[7] The FASB, the SEC, and the Supreme Court all have different definitions of materiality. Recently, the FASB reverted to its original definition of materiality, issued in Concepts Statement 2 in 1980, and considers information to be material if "the magnitude of an omission or misstatement of accounting information that, in the light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would have been changed or influenced by the omission or misstatement" (FASB 2017). SEC's Staff Accounting Bulletin 99 states that, although numerical thresholds (e.g., 5% of net income or 10% of revenues) can be "an initial step in assessing materiality," preparers should consider other qualitative factors such as effects on earnings trends, analyst expectations, changes from reporting a loss to reporting income or vice versa, compliance with regulatory requirements or loan covenants, increases in management compensation, concealment of an unlawful transaction, and intentional earnings manipulation (SEC 1999). Meanwhile, the Supreme Court considers information to be material if "there is a substantial likelihood that the omitted or misstated item would have been viewed by a reasonable resource provider as having significantly altered the total mix of information" (Basic Inc. v. Levinson 1988; TSC Industries, Inc. v. Northway Inc. 1976).

[8] Relatedly, Choudhary et al. 2017 find that for majority of revision restatements, the errors tend to be greater than the quantitative thresholds recommended by the SEC (e.g., 5 percent of earnings or 10 percent of revenues).

The Continued Influence Effect

After a firm issues a revision restatement, investors should update their beliefs about the firm as prior performance predicts future performance (e.g., Barth, Cram, and Nelson 2001; Finger 1994). However, psychology research suggests that investors may not fully update their beliefs after viewing the corrections. The continued influence effect is a cognitive bias, according to which incorrect information continues to influence individuals' judgments, even after they learn that the information is incorrect (Johnson and Seifert 1994; Ross and Anderson 1982; Ross et al. 1975; Seifert 2014). Once individuals view information, they form inferences. Later on, when individuals view a correction, they cannot ignore their initial (incorrect) inferences in forming future judgments. Studies of the continued influence effect document its pervasiveness, showing it is extremely difficult for individuals who view misinformation to behave similarly to individuals never exposed to the information (Seifert 2014). Individuals cannot "unring the bell" or behave as if they had never seen the information. Although a correction causes individuals to partially update inferences related to incorrect information, it does not cause them to completely update their beliefs (Johnson and Seifert 1994). In fact, even after individuals recall both the incorrect information and the correction, they still make judgments and decisions that suggest they fail to fully update their beliefs (Johnson and Seifert 1994; Seifert 2014).

In a revision restatement setting, the continued influence effect suggests that when a firm corrects prior errors that it considers immaterial, investors will fail to fully update their beliefs about the firm's future performance. Specifically, I expect that investors will rely on the corrected values as well as the originally misstated values when making judgments about future performance. I expect that even though investors will recall that the firm made errors in prior

periods, which were then corrected, their judgments will reflect inferences formed from the originally misstated values. For example, if the misstated values show high positive earnings but the corrected values show low positive earnings, investors' judgments will suggest they are still relying, to some extent, on the misstated high positive earnings, rather than fully adjusting to rely solely on the corrected low positive earnings.

Investment Position and Perceived Materiality

While I expect the continued influence effect to apply to all investors, I expect the strength of the bias to vary among investors. Specifically, I predict that the extent to which investors update their beliefs will differ based on their perceived materiality of the errors. These perceptions should affect how investors view the implications of the errors. The theory of motivated reasoning suggests that investors' perceived materiality of errors will differ depending on whether they own shares in the firm (Kunda 1990). Current investors benefit from the firm's positive performance and are hurt by its negative performance. Accounting research has shown that current investors tend to agree with preference-consistent information that suggests the firm has performed well or will perform well and tend to disagree with preference-inconsistent information that suggests the firm has not performed well or will not perform well (Hales 2007; Thayer 2011). Prospective investors are not affected by the firm's performance and thus, have no directional preferences. Thus, they are likely to be more objective when evaluating information about the firm. Compared to current investors, prospective investors should be less likely to accept or reject information based only on its implications for the firm's value or performance.

Based on the theory of motivated reasoning, I expect that owning shares in the firm will affect investors' perceived materiality of errors. Specifically, if the corrected values make historical performance appear worse, prospective investors will perceive the errors to be more

material compared to current investors. I expect these perceptions to then affect the strength of the continued influence effect. Therefore, while all investors may fail to fully update their beliefs due to the continued influence effect, I predict that prospective investors will update their beliefs more than current investors.

Quantitative Reconciliation and Overcoming the Continued Influence Effect

As mentioned, research on the continued influence effect has shown that is difficult for individuals to overcome the influence of previously learned incorrect information and adjust their beliefs. To reduce the continued influence effect, inferences related to the incorrect information must be updated. One way to do this is to make the correction easier to process (Lewandowsky et al. 2012). This allows individuals to better understand the implications of the correction and why any inferences formed from incorrect information should be disregarded. Accounting research has found that quantitative reconciliations make financial information easier to analyze for investors (Elliott 2006; Nelson and Tayler 2007).

The SEC requires firms to perform both quantitative and qualitative analyses to determine the materiality of any errors in financial statements. However, once firms consider the errors to be individually immaterial, they are only required to disclose that they discovered and fixed these errors. The SEC provides little guidance regarding the content or style of revision restatement disclosures. When firms issue revision restatements, they are not required to file an 8-K, amend or re-issue prior-period financials, or inform investors to stop relying on previously disclosed information. Additionally, the SEC does not require auditors to modify their opinions related to the misstated financials.[9] Firms have complete discretion over the footnote disclosure,

[9] On the other hand, the SEC requires firms that issue reissuance restatements to file an 8-K, amend and re-issue prior-period financials, and issue a notice to inform investors that they should stop relying on information disclosed in prior financial statements. Additionally, auditors must modify the audit opinion related to the misstated financials. These actions make the corrections in reissuance restatements easier to analyze. Combined with the extremely

which has led to considerable variation in revision restatement disclosures.[10] Although the SEC recommends that firms provide quantitative reconciliations whenever disclosing financial information (SEC 2017), my hand-collected random sample of 151 revision restatements between 2007 and 2016 reveals that only 43% of firms provided them. Appendix A contains examples of revision restatements.

I expect that a quantitative reconciliation will package information in a way that will make the corrections easier to process.[11] However, I also expect that the effect of a quantitative reconciliation will not be equal for all investors. Recall that current investors tend to agree with preference-consistent information that suggests the firm has performed well or will perform well, and tend to disagree with preference-inconsistent information that suggests the firm has not performed well or will not perform well (Hales 2007; Thayer 2011). Even though the quantitative reconciliation may make the corrections easier to process, the message (i.e., prior earnings decreased) will still be preference-inconsistent for current investors. Thus, I expect differential reactions from current investors versus prospective investors. After downward corrections of prior earnings, I expect the increase in how much prospective investors update their beliefs compared to current investors to be greater.

Overall, I make two predictions. First, I predict that when the firm does not provide a quantitative reconciliation, prospective investors will update their beliefs more than current

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negative price response, the continued influence effect should lessen in the case of reissuance restatements, as investors receive several strong signals to adjust their beliefs regarding future performance.

[10] Tan and Young (2015) document that majority of firms that issue revision restatements do not even provide the cause of the errors.

[11] Information processing is comprised of information acquisition and information integration. Information acquisition refers to identifying and being able to recall specific pieces of information, while information integration refers to incorporating the information when arriving at a judgment (Elliott, Hodge, Kennedy, and Pronk 2007; Hodge, Kennedy, and Maines 2004; Maines and McDaniel 2000). In my setting, theory predicts that the interaction of my independent variables should not affect information acquisition and instead only affect information integration, which will differ based on investment position. To confirm, I examine information acquisition in my experiment, which I discuss later on in the paper.

investors. Second, when the firm makes the revision restatement easier to process by providing a quantitative reconciliation, I expect a greater increase in how much prospective investors update their beliefs compared to current investors. Formally stated, my hypothesis is as follows:

Hypothesis: After a firm corrects prior earnings downward, prospective investors will update their beliefs more than current investors, and this difference will be amplified when the firm provides a quantitative reconciliation.

III. EXPERIMENTAL METHOD

To test my research question, I conduct a 2 × 2 + 1 between-subjects design experiment. I manipulate investment position (current investor versus prospective investor) and whether the disclosure of a revision restatement contains a quantitative reconciliation of the misstated values to the corrected values (absent versus present). I also include a benchmark condition in which participants assume the role of prospective investors and the firm does not misstate any values.

Participants

Ex ante, I estimate the sample size needed to detect a significant interaction and main effects of practical importance with reasonable power. Given $\alpha = 0.10$, $1 - \beta = 0.80$ (Tabachnick and Fidell 2007), and a moderate effect size (Cohen 1998), I require a sample size of approximately 101 total participants for the interaction and 102 participants for the main effects. I solicit participants from multiple academic programs to increases the likelihood I obtain this minimum sample size. Participants are 160 senior undergraduate accounting, graduate accounting, and MBA students from a large public university.[12] Participants have taken on average 7.77 accounting courses and 2.86 finance courses. Overall, 35 percent of them have purchased common stock or debt securities, and 70 percent plan to do so in the next five years. All participants in my study have been exposed to restatements in their accounting courses. I

[12] Dummy variables related to program do not interact with my independent variables to change the inferences drawn.

choose students with proficiency in accounting to match participants' knowledge to the task without using more sophisticated subjects than necessary (Libby, Bloomfield, and Nelson 2002). Participants complete the study via an online instrument on their own time and are randomly assigned to a condition by the computer software.

Investment Position Manipulation

The first screen of the online instrument informs participants that they will evaluate financial information in a hypothetical scenario. They are randomly assigned to either the current investor or prospective investor condition. The next screen instructs participants to pick one of two envelopes. Regardless of which envelope they pick, participants in the current investor condition view the following message: "Great choice! You now own a diversified portfolio of stocks in various industries. As part of your annual review of portfolio holdings, you are evaluating your investment in the food and beverage industry. Specifically, you own shares of TastyBev Company." Similarly, regardless of which envelope they pick, participants in the prospective investor condition view the following message: "Great choice! You now own a diversified portfolio of stocks in various industries. As part of your annual review of portfolio holdings, you are evaluating a potential investment in the food and beverage industry. Specifically, you are considering whether to purchase shares of TastyBev Company." I make participants choose between two envelopes to strengthen the effect of ownership. Picking an envelope should make them feel more strongly about their roles, which should strengthen the effects of motivated reasoning (i.e., their directional preferences).

Background Information and Prior Financial Performance

The following screen shows background information about TastyBev and its financial performance over the past two fiscal years (2015 and 2016), including management's forecasted

EPS range and key financial metrics for each year.[13] The financial metrics show that revenue, gross margin, operating income, and net income increased over the past two years. Furthermore, TastyBev's reported EPS is near the highest point of management's forecasted range for each year. I provide this information to help investors form expectations regarding the firm's future EPS relative to management's forecasted range. Appendix B contains images of the firm's background information.

Preliminary Firm Assessments

After viewing background information about the firm, participants view management's forecasted EPS range for 2017, which is $2.95 to $3.10. Participants then immediately make a preliminary assessment of the firm's next year EPS, future performance, and riskiness. First, I ask: "What is your best estimate of TastyBev's reported EPS for fiscal year 2017?" Participants respond on a scale with endpoints of $2.85 and $3.25. Second, I ask: "What is your best estimate of TastyBev's long-term earnings potential?" Participants respond on a 101-point scale with endpoints 0 ("Very Low") and 100 ("Very High"). Finally, I ask: "How risky is an investment in TastyBev's stock, relative to that of an average firm of equivalent size in the same industry?" Participants respond on a 101-point scale with endpoints 0 ("Not At All Risky") and 100 ("Very Risky").

Revision Restatement

After making their preliminary firm assessments, participants view a condensed version of the firm's 10-K for 2017. The condensed 10-K contains the firm's income statement and balance sheet, along with two accompanying footnotes. Appendix B contains images of the firm's income statement and balance sheet. The income statement shows that the firm's reported

[13] The width of management's forecasted range for both years is $0.15, which is the average width of real-world management forecasts (Rogers and Stocken 2005).

EPS for the current year is near the highest point of management's forecasted range. However, in the 10-K, the firm corrects financial information for the prior two periods (i.e., 2015 and 2016). Specifically, the firm corrects revenue, accounts receivable, and retained earnings downward, and it corrects cost of goods sold, selling and general administrative expenses, and accounts payable upward.[14] More importantly, the corrected EPS values for the prior two years are near the lowest point of management's forecasted range for those years. Consistent with real-world disclosures of revision restatements, the firm does not highlight the corrections on the face of the financials and only discusses the revision restatement in a footnote. The footnote states that the firm discovered errors in prior periods that it considered immaterial to those periods but that a revision of the cumulative errors would be material for the current year; thus, the firm chose to report the correct historical financial information in the 10-K. The language of the footnote mirrors real-world revision restatement disclosures. Also consistent with real-world revision restatement disclosures, I do not provide the cause of the errors (Tan and Young 2015).

Quantitative Reconciliation Manipulation

I manipulate quantitative reconciliation by either providing or *not* providing a tabular quantitative reconciliation in the footnote. Participants in the quantitative reconciliation absent condition view a narrative summary of the changes caused by the corrections. Participants in the quantitative reconciliation present condition view a table that reconciles the changes caused by the correction to each line item of the financial statements. In the quantitative reconciliation absent condition, I choose to provide a narrative of the changes to hold all information constant across conditions. While not providing any information in the quantitative reconciliation absent condition would be closer to real-world revision restatement disclosures and make the revision

[14] The percentage change of the corrections is within the rule-of-thumb materiality thresholds suggested by the SEC (SEC 1999).

restatement even harder to process, it would result in a compound manipulation. Thus, I choose a weaker manipulation that provides for better control and biases against finding results. Appendix C contains images of my manipulation.

Final Firm Assessments

After participants view the firm's 10-K, they view management's forecasted EPS range for 2018, which is $2.98 to $3.13. After viewing the forecast, they make their final assessments of the firm's next year EPS, future performance, and riskiness, similar to the initial assessment questions. First, I ask: "What is your best estimate of TastyBev's reported EPS for fiscal year 2018?" Participants respond on a scale with endpoints of $2.85 and $3.25. Second, I ask: "What is your best estimate of TastyBev's long-term earnings potential?" Participants respond on a 101-point scale with endpoints 0 ("Very Low") and 100 ("Very High"). Finally, I ask: "How risky is an investment in TastyBev's stock, relative to that of an average firm of equivalent size in the same industry?" Participants respond on a 101-point scale with endpoints 0 ("Not At All Risky") and 100 ("Very Risky").

Materiality Assessments and Post-Experimental Questions

After making their final investment assessments, participants view the FASB's definition of materiality and answer two questions about their perceived materiality of the errors in the 2016 and 2017 financials: 1) "I believe the errors in TastyBev's 2015 financials, which the firm revised in its 2017 10-K, are material," and 2) "I believe the errors in TastyBev's 2016 financials, which the firm revised in its 2017 10-K, are material."[15] Participants respond to both questions on a 101-point scale with endpoints 0 ("Strongly Disagree") and 100 ("Strongly

[15] The FASB's definition of materiality that participants view is: "The omission or misstatement of an item in a financial report is material if, in the light of surrounding circumstances, the magnitude of the item is such that it is probable that the judgment of a reasonable person relying upon the report would have been changed or influenced by the inclusion or correction of the item." (FASB 2017)

Agree"). After making their materiality assessments, participants assess management credibility, answer manipulation and acquisition checks, assess affective reaction towards the firm, estimate likelihood of future material and immaterial errors, and provide demographic information.

Benchmark Condition

In the benchmark condition, participants assume the role of prospective investors. The flow of the experiment in the benchmark condition resembles the primary conditions, except that the firm being evaluated does not have a revision restatement. The reported EPS for TastyBev's prior two years equals the corrected values that participants in the primary conditions view when the firm issues the revision restatement. Thus, the firm does not have any errors in prior-period financials, and the 2017 10-K does not contain a footnote regarding a revision restatement. Participants in the benchmark condition make preliminary and final firm assessments similar to participants in the primary conditions. Participants then conclude the experiment by answering all post-experimental questions, except for the materiality assessments and the acquisition check questions. Appendix B contains the image of the background information viewed by participants in the benchmark condition. Appendix C contains the image of the footnote viewed by participants in the benchmark condition.

IV. RESULTS

Manipulation Check

To assess the effectiveness of the investment position manipulation (i.e., current investor versus prospective investor), I ask: "At the beginning of this study, which of the following statements did you view regarding your portfolio of stocks?" Participants respond by answering either "you own shares of TastyBev Company" or "you are considering whether to purchase shares of TastyBev Company." Eighty-five percent of participants correctly answer this question.

To assess the effectiveness of the quantitative reconciliation manipulation (i.e., absent versus present), I ask: "In the footnotes to its 2017 10-K, did TastyBev provide a table that reconciled the originally reported and the revised values related to errors in the 2015 and 2016 financials?" Participants respond by answering either "Yes" or "No." Seventy-nine percent of participants correctly answer this question.[16]

Test of Hypothesis

My hypothesis predicts that, after a firm corrects prior earnings downward, prospective investors will update their beliefs more than current investors, and this difference will be amplified when the firm provides a quantitative reconciliation. I measure how much participants update their beliefs by calculating the change in EPS estimates by subtracting participants' estimates of 2017 EPS from their estimates of 2018 EPS. Recall that the misstated 2015 and 2016 EPS values are near the highest point of management's forecasted range for those years, and the corrected 2015 and 2016 EPS values are near the lowest point of management's forecasted range for those years. A more negative (positive) change in EPS estimate suggests participants moved toward the lowest (highest) point of the scale (and management's forecasted range of EPS for 2018) when estimating 2018 EPS. Thus, the more negative (positive) the change in EPS estimate, the more participants are relying on the corrections (misstatements) when making EPS judgments. At an operational level, my hypothesis predicts that, when the firm provides a quantitative reconciliation, prospective investors' change in EPS estimate will be more negative than current investors' change in EPS estimate, with the difference being amplified when the firm provides a quantitative reconciliation. Table 1, Panel A, reports cell sizes, means, and standard deviations for participants' change in EPS estimate and Figure 1

[16] While I include all participants in my main analyses, results are statistically stronger if I exclude participants who fail the manipulation check questions.

displays the pattern of cell means. Table 1, Panel B, presents the two-way ANOVA and the planned contrast with participants' change in EPS estimate as the dependent variable, and Panel C reports follow-up simple effect tests.

<INSERT TABLE 1 AND FIGURE 1 HERE>

I use contrast tests for my theoretically predicted pattern (Buckless and Ravenscroft 1990; Guggenmos, Piercey, and Agoglia 2018). Consistent with my hypothesis, I use contrast weights of +3 in the current investor/reconciliation absent condition, +2 in the current investor/reconciliation present condition, -1 in the prospective investor/reconciliation absent condition, and -4 in the prospective investor/reconciliation present condition. Results presented in Table 3, Panel C, show that the planned contrast is statistically significant ($p < 0.01$), consistent with my expectations.[17,18,19]

Follow-up simple effects tests by conditions reveal that when the firm does not provide a quantitative reconciliation, prospective investors update their beliefs marginally more than current investors ($p = 0.07$, one-tailed). When the firm provides a quantitative reconciliation, there is no change in how much current investors update their beliefs ($p = 0.67$), but there is a marginal increase in how much prospective investors update their beliefs ($p = 0.08$, one-tailed). Finally, as expected, when the firm provides a quantitative reconciliation, prospective investors

[17] A semi-omnibus test (untabulated) confirms that the residual variance attributable to main and interactive effects of investment position and reconciliation after accounting for my planned contrast is not significant ($F_{(2, 125)} = 0.02$, $p = 0.98$). Additionally, following Guggenmos et al. (2018), I confirm that the pattern of means visually fits the contrast weightings and I calculate the proportion of variance explained by my contrast as compared to all other non-error variance. Results indicate that my predicted interaction explains 99% of the total non-error variance. I conclude that the posited interaction adequately explains the data.

[18] The change in EPS estimate measure is not normally distributed in one condition, and Levene's test for equality of variances indicates the assumption of homogeneity of variances is violated. To correct these issues and assess the robustness of my results, I apply both logarithmic and inverse transformations to the measure. Results using these transformed values are inferentially similar to results using the untransformed values. I report results of the untransformed values for ease of interpretation.

[19] All p-values are two-tailed, unless stated otherwise.

update their beliefs more than current investors ($p < 0.01$, one-tailed). Overall the results support my hypothesis and suggest that the continued influence effect is stronger for current investors than for prospective investors. Furthermore, a quantitative reconciliation helps reduce the continued influence of the misstatements for prospective investors but not for current investors.

Evidence of Theory

Perceived Materiality of the Errors

The theory of motivated reasoning suggests prospective investors will perceive the errors to be more material compared to current investors. A Cronbach's alpha of 0.93 for the two materiality questions, which is greater than the recommended threshold of 0.70, confirms that my materiality-related questions capture the same underlying construct (Nunnally 1978). Therefore, I average participants' responses to the two questions to create one measure of materiality. Consistent with theory (results untabulated), I find that prospective investors perceive the errors disclosed in the revision restatement to be marginally more material compared to current investors ($68.81 > 63.64$; $t_{(127)} = 1.38$, $p = 0.09$, one-tailed).

Further analysis reveals that, even though prospective investors update their beliefs more after viewing a quantitative reconciliation, they do not perceive the errors to be any more material ($69.27 \approx 68.34$; $t_{(61)} = 0.18$, $p = 0.86$). One reason prospective investors' perceived materiality of the errors would not increase is if they view materiality as a dichotomous, rather than scaled, decision. In this case, a quantitative reconciliation would not cause investors to perceive the errors as any more material than before but would still cause an increase in how much they update their beliefs, as they better understand the implications of the revision restatement. Overall, investors responses to the materiality questions suggest that perceptions of materiality differ based on investment position.

Ease of Processing

Another important link in my theory is that a quantitative reconciliation makes the corrections easier to process. To provide evidence consistent with theory, I ask participants three questions adapted from prior literature (Hart and Staveland 1988). First, I ask: "How hard did you have to work to understand the footnote(s) in TastyBev's 2017 10-K?" Participants respond on a 101-point scale with endpoints 0 ("Not At All Hard") and 100 ("Very Hard"). Second, I ask: "How annoyed did you feel when reading the footnote(s) in TastyBev's 2017 10-K?" Participants respond on a 101-point scale with endpoints 0 ("Not At All Annoyed") and 100 ("Very Annoyed"). Finally, I ask: "How much mental activity was required (e.g., thinking, deciding, calculating, remembering, looking, searching, etc.) when reading the footnote(s) in TastyBev's 2017 10-K?" Participants respond to on a 101-point scale with endpoints 0 ("Very Low") and 100 ("Very High"). A Cronbach's alpha of 0.70 for the three questions, which equals the recommended threshold of 0.70, confirms that my processing-related questions capture the same underlying construct (Nunnally 1978). Thus, I average responses to the three questions to derive my ease of processing measure. As predicted, participants that view a quantitative reconciliation find the footnotes easier to process compared to participants that do not view a quantitative reconciliation ($47.19 < 53.25$; $t_{(127)} = 1.93$; $p = 0.03$, one tailed).

Ruling out an Alternative Explanation: Information Acquisition

I predict that the interaction of my independent variables should not affect information acquisition and instead should only affect information integration. To rule out the alternative explanation that information acquisition is driving my results, I ask five general and four specific questions to measure information acquisition. The general information acquisition questions are:

1) “TastyBev’s revisions to its 2015 financials caused 2015 net income to increase,” 2) “TastyBev’s revisions to its 2016 financials caused 2016 net income to increase,” 3) “Before TastyBev’s revisions to its 2015 and 2016 financials, originally reported EPS for 2015 and 2016 were within management’s forecasted EPS range for those years,” 4) “After TastyBev’s revisions to its 2015 and 2016 financials, revised EPS for 2015 and 2016 were within management’s forecasted EPS range for those years,” and 5) “How many footnotes were included in TastyBev’s condensed 2017 10-K?” Participants respond to the first four questions by answering either “True” or “False.” Participants respond to the last question by choosing a number from zero to three. Thirty-five percent of participants (untabulated) correctly answer all general information acquisition questions, which does not differ across conditions (all χ^2 values > 0.17).

The specific information acquisition questions ask participants to recall the specific misstated and corrected EPS values. The specific information acquisition questions are: 1) “Before TastyBev’s revisions to its 2015 financials, what was the originally reported EPS for 2015,” 2) “After TastyBev’s revisions to its 2015 financials, what was the revised EPS for 2015,” 3) “Before TastyBev’s revisions to its 2016 financials, what was the originally reported EPS for 2016,” and 4) “After TastyBev’s revisions to its 2016 financials, what was the revised EPS for 2016?” For each question, participants can choose one of four possible responses. Forty percent (untabulated) correctly answer all specific information acquisition checks, which does not differ across conditions (all χ^2 values > 0.62).[20] Overall, the results for the general and specific information acquisition questions are consistent with theory that a quantitative reconciliation affects information integration but not information acquisition.

[20] Results are inferentially similar if I examine each information acquisition question separately or the general and specific information acquisition questions combined.

Exploratory Analysis: Role of Perceived Management Credibility

One possible implication of a revision restatement could be lower perceived management credibility. This would be a logical response, given that firms that issue revision restatements have increased propensities of future immaterial and material errors and future material weaknesses (Choudhary et al. 2017). Thus, when a revision restatement is easier to process, investors may be more likely to assess management's credibility to be even lower, which would then affect how much they update their beliefs. However, based on the theory of motivated reasoning, I expect investors' perceived management credibility after viewing a quantitative reconciliation to only decrease for prospective investors. I test this conjecture by examining whether perceived management credibility mediates the relationship between quantitative reconciliation and change in EPS estimate conditional on investment position.

Consistent with prior accounting literature, I define competence and trustworthiness as components of credibility (Mercer 2005). Table 2, Panel A, presents the two questions I use to measure credibility. A Cronbach's alpha of 0.78 for the two questions, which exceeds the recommended threshold of 0.70, confirms that my credibility-related questions capture the same underlying construct (Nunnally 1978). Table 2, Panel B, presents descriptive statistics for both credibility questions and the combined credibility measure. Figure 2 presents the two-group structural model I use to test whether credibility mediates the relationship between quantitative reconciliation and change in EPS estimate.

<INSERT TABLE 2 AND FIGURE 2 HERE>

When I include the entire sample in the mediation analysis, I find no significant direct effect (untabulated) of the quantitative reconciliation condition in either the prospective investor

condition (p = 0.36) or the current investor condition (p = 0.80). As results for my main hypothesis are stronger when I exclude participants that fail the manipulation checks, I re-examine mediation using participants that correctly answer the manipulation check questions. Participants who fail manipulation checks are likely not paying close attention, and therefore, only including participants that pass the manipulation check reduces noise in the data (Oppenheimer, Meyvis, and Davidenko 2009). Table 2, Panel C, presents descriptive statistics for both credibility questions and the combined credibility measure for participants that correctly answer the manipulation check questions.

Within this subsample, when I examine the prospective investors condition, I observe a marginally significant relation between the manipulated independent variable, quantitative reconciliation, and perceived management credibility (p = 0.08). I also find a significant positive effect of perceived management credibility on the change in EPS estimate (p = 0.02). Finally, the link between the quantitative reconciliation and the change in EPS estimate is no longer significant (p = 0.85). When I examine the current investor condition, I observe an insignificant relation between the manipulated independent variable, quantitative reconciliation, and perceived management credibility (p = 0.80).[21] This suggests that making the revision restatement easier to process by providing a quantitative reconciliation causes prospective investors to perceive management as less credible. However, making the revision restatement easier to process does not affect current investors' perceived management credibility. Overall, these results are consistent with theory that prospective investors are less biased than current investors when analyzing information about the firm.

[21] The overall model's comparative fit index (CFI) is 1.00, minimum fit $\chi^2_{(3\ df)} = 0.95$ (p = 0.62), the minimum discrepancy divided by degrees of freedom (χ^2/df) is 0.48, RMSEA is 0.01, and SRMR is 0.02. Models with CFI close to 0.95, minimum fit χ^2 p > 0.05, χ^2/df < 3.0, RMSEA < 0.10, and SRMR < 0.08 are considered good fits (Hu and Bentler, 1999; Iacobucci, 2010; Marsh, Hau, and Wen 2004).

Participants' Perceived Firm Riskiness After the Revision Restatement

A revision restatement could also affect participants' perceptions of firm riskiness in addition to perceptions of future earnings. To test for this, I calculate the change in participants' perceived firm riskiness by subtracting their initial rating of perceived firm riskiness from their final rating. Table 3, Panel A, reports cell sizes, means, and standard deviations for the change in participants' perceived firm riskiness and Figure 3 displays the pattern of cell means. Table 3, Panel B, presents a two-way ANOVA with participants' perceived firm riskiness as the dependent variable.

<INSERT TABLE 3 AND FIGURE 3 HERE>

Results reveal a significant investment position by quantitative reconciliation interaction ($p = 0.02$).[22] I report the follow-up simple effects tests in Table 3, Panel C. Results show that the change in investors' perceived firm riskiness does not differ between current and prospective investors when the firm does not provide a quantitative reconciliation ($p = 0.18$). When the firm provides a quantitative reconciliation, the change in current investors' perceived firm riskiness does not increase ($p = 0.46$), but the change in prospective investors' perceived riskiness increases ($p = 0.01$). Finally, when the firm provides a quantitative reconciliation, the change in prospective investors' perceived firm riskiness is marginally greater than that of current investors' ($p = 0.06$). Taken together, these results suggest that making the revision restatement easier to process by providing a quantitative reconciliation only causes prospective investors'

[22] Similar to the change in EPS estimate measure, the change in the participants' perceived firm riskiness measure is not normally distributed in one condition, and Levene's test for equality of variances indicates the assumption of homogeneity of variances is violated. To correct these issues and assess the robustness of my results, I apply both logarithmic and inverse transformations to the measure. Results using these transformed values are inferentially similar to results using the untransformed values. I report results of the untransformed values for ease of interpretation.

perceived firm riskiness to increase. Once again, these results are consistent with motivated reasoning and thus, with the notion that prospective investors are more objective than current investors when analyzing information about a firm.

Comparison to Benchmark Condition

To further understand how current and prospective investors update their beliefs after the firm issues a revision restatement, I compare the 2018 EPS estimates of participants in the primary conditions to those of participants in the benchmark condition. Recall that the firm never issues a revision restatement in the benchmark condition and these participants view the correct EPS values all along. Given that prior earnings are predictive of future earnings and firms that issue revision restatements have a greater likelihood of future errors, investors should take into account downward revision of prior earnings when estimating future performance. Untabulated results show that current investors' estimate of 2018 EPS does not differ compared to the benchmark condition ($3.05 \approx 3.06$; $t_{(96)} = 1.30$; $p = 0.20$). On the other hand, prospective investors' estimate of 2018 EPS is lower compared to the benchmark condition ($3.03 < 3.06$; $t_{(93)} = 3.36$; $p < 0.01$). These results suggest that unlike prospective investors, current investors continue to make EPS judgments as if the firm had never misstated historical financials.

V. CONCLUSION AND LIMITATIONS

In this study, I provide evidence that the extent to which investors update their beliefs after a firm issues a revision restatement differs based on their directional preferences and ease of processing. Specifically, I document several important findings. First, I show that after a firm revises prior earnings downwards, prospective investors update their beliefs marginally more than current investors and consider the errors to be marginally more material. Second, I find that when the firm makes the revision restatement easier to process by providing a quantitative

reconciliation, there is a greater increase in how much prospective investors update their beliefs compared to current investors, who do not update at all. Third, in supplemental analysis, I find that when a revision restatement includes a quantitative reconciliation that makes it easier to process, perceived firm riskiness increases only for prospective investors. Finally, in exploratory analysis, I find that perceived management credibility mediates the influence of a quantitative reconciliation on how much investors update their beliefs for prospective investors but not for current investors.

My study has several limitations that provide opportunities for future research. First, I provide investors with a condensed version of the 10-K. Future research could examine whether providing additional information about the firm affects how investors process revision restatements. Second, the duration over which investors view the errors in my experiment may not reflect how long investors rely on erroneous financial information in the real world. Future research could examine whether the time lapse between viewing the misstated and corrected financials affects the strength of the continued influence effect of the errors. Finally, I use undergraduate and graduate students as proxies for nonprofessional investors. Future research can examine the strength of continued influence effect on more sophisticated investors.

Overall, my study makes several contributions. It contributes to the emerging literature on revision restatements by showing that investors do not fully update their beliefs and compared to prospective investors, current investors' assessments of materiality align more closely with the firm's assessments of materiality. The results of my study also suggest that standardizing revision restatements by requiring quantitative reconciliations would help prospective investors make more informed judgments. Finally, this study also contributes to the regulatory and

academic debate regarding materiality by showing that assessments of materiality are not homogenous within the investor group.

APPENDIX A
Examples of Revision Restatements

Panel A: Nike's revision restatement issued in Q3 2014 without a quantitative reconciliation

Revisions

Certain prior year amounts have been revised in the unaudited condensed consolidated balance sheets to recognize certain inventory amounts held at third parties, which resulted in an increase in the amount of $96 million to both inventories and accrued liabilities. In addition, prior year amounts on the unaudited condensed consolidated statements of cash flows were revised to reflect the related cash flow impact of $36 million, which had no net impact on operating cash flows.

Additionally, prior period amounts in the unaudited condensed consolidated statements of cash flows were revised for non-cash additions to property, plant, and equipment, which increased cash provided by operations and decreased cash provided by investing activities in the amount of $24 million. The Company assessed the materiality of these misstatements on prior periods' financial statements in accordance with SEC Staff Accounting Bulletin ("SAB") No. 99, *Materiality*, codified in ASC 250 ("ASC 250"), *Presentation of Financial Statements*, and concluded that these misstatements were not material to any prior annual or interim periods. Future filings will include revisions to reflect the above adjustments.

Panel B: Rent-A-Center's revision restatement issued in Q1 2015 with a quantitative reconciliation

2. Correction of Immaterial Errors

During the fourth quarter of 2014, we identified errors in accounting for revenues, cost of revenues and other store expenses resulting in an immaterial correction of errors in our previously issued consolidated financial statements. Each of these errors affected periods beginning prior to 2012 through December 31, 2014. In accordance with Staff Accounting Bulletin (SAB) No. 99, *Materiality*, and SAB No. 108, *Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements*, management evaluated the materiality of the errors from qualitative and quantitative perspectives, and concluded that the errors did not, individually or in the aggregate, result in a material misstatement of our previously issued consolidated financial statements. Due to the immaterial nature of the error corrections, the comparable 2014 amounts in the accompanying financial statements have been revised herein as discussed below.

The errors discussed above, adjusted for the related income tax expense impact, resulted in an overstatement of net earnings of $1.6 million for the three-month period ended March 31, 2014 as detailed in the table below:

	Three Months Ended March 31, 2014		
(In thousands, except per share data)	**Previously Reported**	**Adjustment**	**As Revised**
Rentals and fees	$ 694,168	$ (2,981)	$ 691,187
Installment sales	18,356	(296)	18,060
Franchise merchandise sales	7,324	(1,996)	5,328
Total revenues	833,746	(5,273)	828,473
Cost of rentals and fees	177,870	(2,654)	175,216
Cost of installment sales	6,382	(296)	6,086
Franchise cost of merchandise sold	7,000	(1,996)	5,004
Total cost of revenues	270,869	(4,946)	265,923
Gross profit	562,877	(327)	562,550
Store labor	225,678	260	225,938
Other store expenses	215,440	(282)	215,158
Operating profit	59,763	(305)	59,458
Finance charges from refinancing	1,946	2,267	4,213
Earnings before income taxes	46,652	(2,572)	44,080
Income tax expense	17,795	(981)	16,814
Net earnings	28,857	(1,591)	27,266
Basic earnings per common share	$ 0.55	$ (0.03)	$ 0.52
Diluted earnings per common share	$ 0.54	$ (0.03)	$ 0.51

APPENDIX B
Firm Information

Panel A: Background Information About the Firm – Primary Conditions

TastyBev Company is a multinational company in the food and beverage industry based in Sunnyvale, California. The company was founded in 1994 and it went public in 1998. TastyBev is a global manufacturer, retailer, and marketer of nonalcoholic beverages.

Below is information regarding TastyBev's financial performance over the past two fiscal years.

FY 2015

At the beginning of fiscal year 2015, TastyBev's management forecasted that its earnings per share (EPS) for the year would be **between $2.89 and $3.04.**

At the end of fiscal year 2015, TastyBev's **reported EPS was $3.02.**

TastyBev Company 2015 Results	
	FY 2015
Revenue	15,910
Gross Margin	10.75%
Net Income	1,058
EPS	3.02

FY 2016

At the beginning of the fiscal year 2016, TastyBev's management forecasted that its EPS for the year would be **between $2.92 and $3.07.**

At the end of fiscal year 2016, TastyBev's **reported EPS was $3.05.**

TastyBev Company 2016 Results	
	FY 2016
Revenue	15,935
Gross Margin	11.01%
Net Income	1,067
EPS	3.05

APPENDIX B (continued)
Firm Information

Panel B: Background Information About the Firm – Benchmark Condition

TastyBev Company is a multinational company in the food and beverage industry based in Sunnyvale, California. The company was founded in 1994 and it went public in 1998. TastyBev is a global manufacturer, retailer, and marketer of nonalcoholic beverages.

Below is information regarding TastyBev's financial performance over the past two fiscal years.

FY 2015

At the beginning of fiscal year 2015, TastyBev's management forecasted that its earnings per share (EPS) for the year would be **between $2.89 and $3.04.**

At the end of fiscal year 2015, TastyBev's **reported EPS was $2.91.**

TastyBev Company 2015 Results	
	FY 2015
Revenue	15,891
Gross Margin	10.54%
Net Income	1,020
EPS	2.91

FY 2016

At the beginning of fiscal year 2016, TastyBev's management forecasted that its EPS for the year would be **between $2.92 and $3.07**.

At the end of fiscal year 2016, TastyBev's **reported EPS was $2.94.**

TastyBev Company 2016 Results	
	FY 2016
Revenue	15,915
Gross Margin	10.79%
Net Income	1,028
EPS	2.94

APPENDIX B (continued)
Firm Information

Panel C: 2018 Income Statement and Balance Sheet – All Conditions

TastyBev Company
Income Statement
(in millions except earnings per share)

Fiscal year ended	Dec 31, 2017	Dec 31, 2016	Dec 31, 2015
Total Revenue	$ 15,993	$ 15,915	$ 15,891
Cost of Goods Sold	14,201	14,197	14,216
Gross Profit	1,792	1,718	1,675
Operating Expenses:			
SG&A	268	266	248
Depreciation Expense	268	270	225
Other Operating Expenses	84	62	86
Total Operating Expenses	$ 620	$ 598	$ 559
Operating Income (Loss)	1,172	1,120	1,116
Interest Expense	81	81	84
Income (Loss) Before Taxes	1,091	1,039	1,032
Income Tax Expense	12	11	12
Net Income (Loss)	$ 1,079	$ 1,028	$ 1,020
Earnings per share (EPS)	**$ 3.08**	**$ 2.94**	**$ 2.91**

TastyBev Company
Balance Sheet
(in millions)

	Dec 31, 2017	Dec 31, 2016
ASSETS		
Current Assets		
Cash and Cash Equivalents	$ 5,224	$ 4,711
Accounts Receivables	862	915
Inventory	3,199	2,974
Other Current Assets	119	123
Total Current Assets	9,404	8,723
Property Plant and Equipment - Net	3,560	3,292
Other Non-Current Assets	98	15
Total Assets	$ 13,062	$ 12,030
LIABILITIES AND STOCKHOLDERS EQUITY		
Current Liabilities		
Accounts Payable	754	789
Total Current Liabilities	754	789
Long Term Debt	1,027	1,031
Other Liabilities	210	218
Total Liabilities	$ 1,991	$ 2,038
Common Stock	105	105
Retained Earnings	8,662	7,583
Additional Paid in Capital	2,304	2,304
Total Stockholders' Equity	11,071	9,992
Total Liabilities and Stockholders' Equity	$ 13,062	$ 12,030

APPENDIX C
Quantitative Reconciliation Manipulation

Panel A: Quantitative Reconciliation Absent

NOTE 1 – DESCRIPTION OF OPERATIONS

TastyBev is a company located in the United States. It manufactures, retails, and markets nonalcoholic beverages and concentrates world-wide.

NOTE 2 – REVISION OF PRIOR PERIOD FINANCIALS

During the quarter ended December 31, 2017, we discovered errors in accounting for revenues, cost of goods sold, and SG&A expenses. In accordance with Staff Accounting Bulletin (SAB) No. 99, *Materiality*, and SAB No. 108, *Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements*, we evaluated the materiality of the errors from qualitative and quantitative perspectives, and concluded that the errors were immaterial to the prior periods. However, we determined that the revision of the cumulative amounts of the errors would be material for the year ended December 31, 2017. Accordingly, we have revised our financial statements for the fiscal years 2016 and 2015 included in this 10-K. The following paragraph reconciles the changes to line items on the income statement and the balance sheet as a result of the revisions (in millions except earnings per share).

For each line item, we provide the value of the revision, the value originally reported, and the value after the revision. Total revenue decreased by $20 (from $15,935 to $15,915) and $19 (from $15,910 to $15,891) for fiscal years 2016 and 2015, respectively. Cost of goods sold increased by $17 (from $14,180 to $14,197) and $16 (from $14,200 to $14,216) for fiscal years 2016 and 2015, respectively. SG&A expenses increased by $2 (from $264 to $266) and $3 (from $245 to $248), for fiscal years 2016 and 2015, respectively. Overall, net income decreased by $39 (from $1,067 to $1,028) and $38 ($1,058 to $1,020) for fiscal years 2016 and 2015, respectively. **Earnings per share (EPS) decreased by $0.11** for both 2016 (from **$3.05** to **$2.94**) and 2015 (from **$3.02** to **$2.91**). Accounts receivable and retained earnings as of December 31, 2016 decreased by $39 (from $954 to $915) and $77 (from $7,660 to $7,583), respectively. Accounts payable as of December 31, 2016 increased by $38 (from $751 to 789).

APPENDIX C (continued)
Quantitative Reconciliation Manipulation

Panel B: Quantitative Reconciliation Present

NOTE 1 – DESCRIPTION OF OPERATIONS

TastyBev is a company located in the United States. It manufactures, retails, and markets nonalcoholic beverages and concentrates world-wide.

NOTE 2 – REVISION OF PRIOR PERIOD FINANCIALS

During the quarter ended December 31, 2017, we discovered errors in accounting for revenues, cost of goods sold, and SG&A expenses. In accordance with Staff Accounting Bulletin (SAB) No. 99, *Materiality*, and SAB No. 108, *Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements*, we evaluated the materiality of the errors from qualitative and quantitative perspectives, and concluded that the errors were immaterial to the prior periods. However, we determined that the revision of the cumulative amounts of the errors would be material for the year ended December 31, 2017. Accordingly, we have revised our financial statements for the fiscal years 2016 and 2015 included in this 10-K. The following tables reconcile the changes to line items on the income statement and the balance sheet as a result of the revisions (in millions except earnings per share):

Fiscal year ended	Dec 31, 2016			Dec 31, 2015		
	Originally Reported	Revision	After Revision	Originally Reported	Revision	After Revision
Total Revenue	$ 15,935	$ (20)	$ 15,915	$ 15,910	$ (19)	$ 15,891
Operating Expenses:						
Cost of Goods Sold	14,180	17	14,197	14,200	16	14,216
SG&A	264	2	266	245	3	248
Net Income (Loss)	$ 1,067	$ (39)	$ 1,028	$ 1,058	$ (38)	$ 1,020
Earnings per share (EPS)	**$ 3.05**	**$ (0.11)**	**$ 2.94**	**$ 3.02**	**$ (0.11)**	**$ 2.91**

	Dec 31, 2016		
	Originally Reported	Revision	After Revision
Accounts Receivables	$ 954	$ (39)	$ 915
Total Assets	$ 12,069	$ (39)	$ 12,030
Accounts Payable	751	38	789
Retained Earnings	7,660	(77)	7,583
Total Liabilities and Stockholders' Equity	$ 12,069	$ (39)	$ 12,030

APPENDIX C
Quantitative Reconciliation Manipulation

Panel C: Benchmark Condition (No Revision Restatement)

NOTE 1 – DESCRIPTION OF OPERATIONS

TastyBev is a company located in the United States. It manufactures, retails, and markets nonalcoholic beverages and concentrates world-wide.

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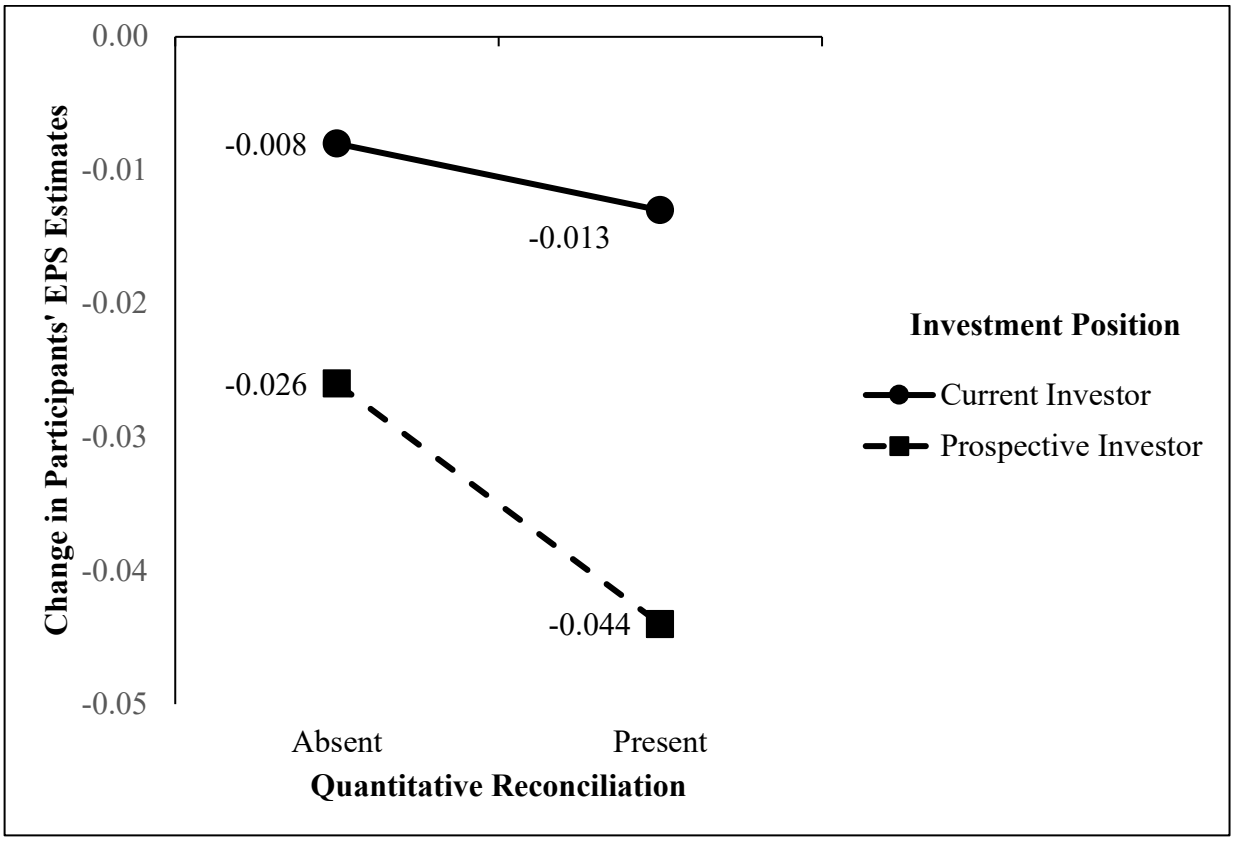
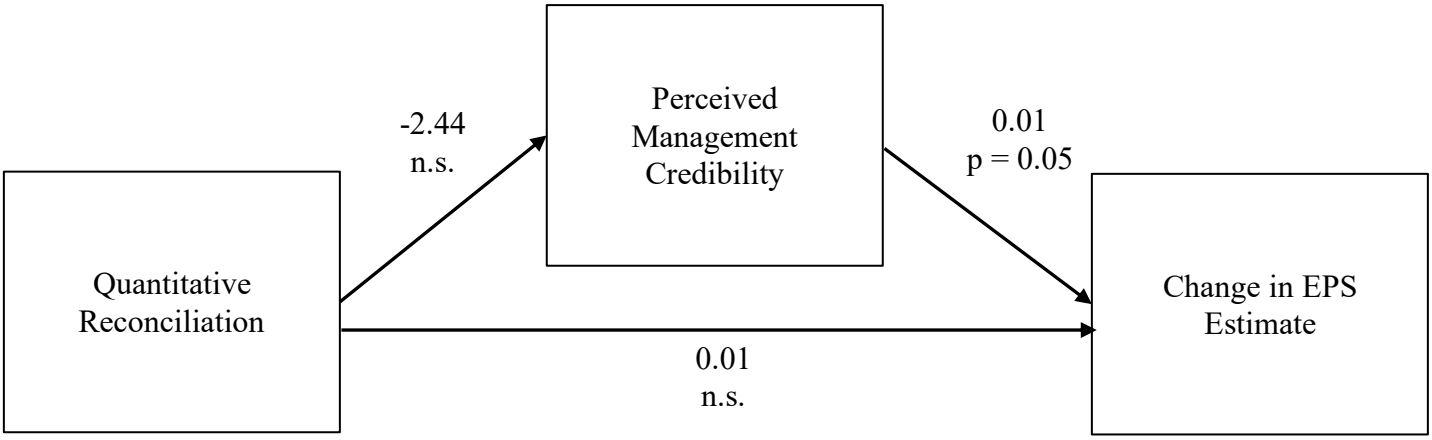
FIGURE 1
The Effect of Investment Position and Quantitative Reconciliation on Change in Participants' EPS Estimates



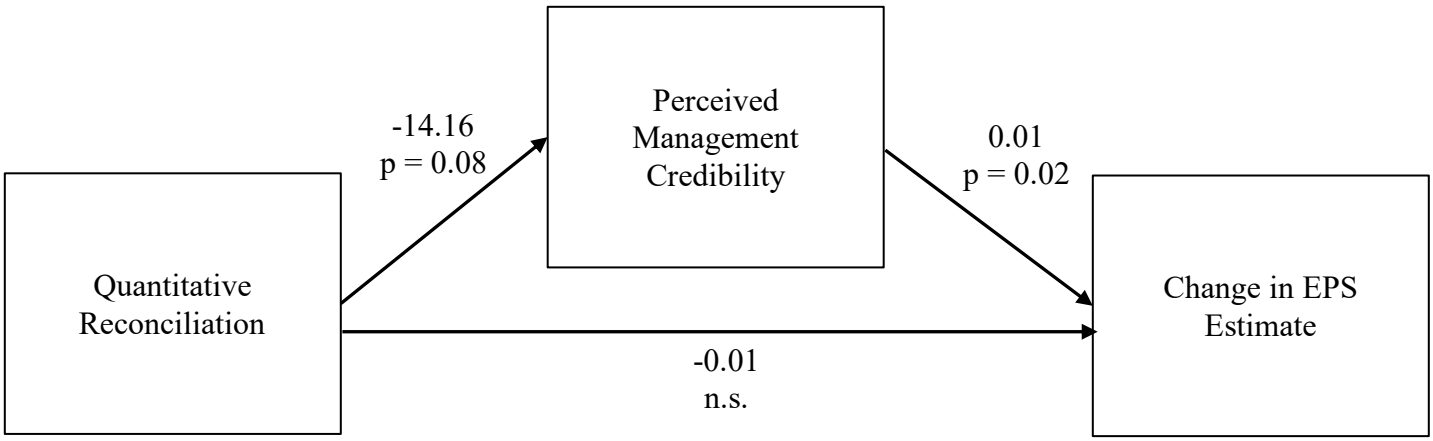
This figure graphically depicts my observed mean values for change in participants' EPS estimates. More negative values indicate a greater update of beliefs after viewing the revision restatement. Table 1 presents descriptive statistics.

Figure 2
Mediation Analysis: Perceived Management Credibility

Panel A: Current Investors

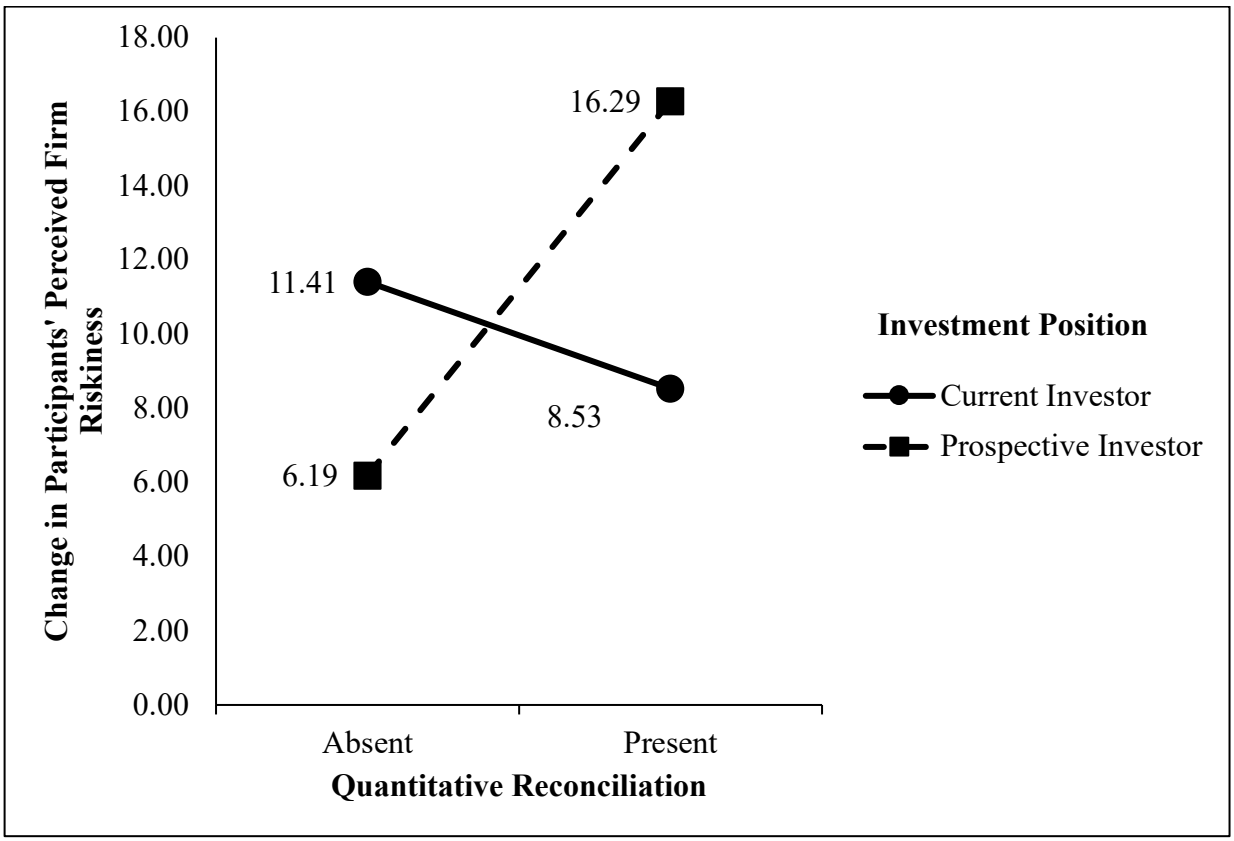


Panel B: Prospective Investors



This figure presents the two-group structural model I use to establish whether the change in perceived management credibility mediates the influence of quantitative reconciliation on change in EPS estimate condition on investment position. I only include participants that correctly answered the manipulation check questions. The overall model's comparative fit index (CFI) is 1.00, minimum fit $\chi^2_{(3\ df)} = 0.95$ ($p = 0.62$), the minimum discrepancy divided by degrees of freedom (χ^2/df) is 0.48, RMSEA is 0.01, and SRMR is 0.02. Models with CFI close to 0.95, minimum fit χ^2 $p > 0.05$, $\chi^2/df < 3.0$, RMSEA < 0.10, and SRMR < 0.08 are considered good fits (Hu & Bentler, 1999; Iacobucci, 2010; Marsh et al., 2004). I find that credibility does not mediate the relationship for current investors but fully mediates the relationship between quantitative reconciliation and change in EPS estimate for prospective investors.

FIGURE 3
The Effect of Investment Position and Quantitative Reconciliation on Change in Participants' Perceived Firm Riskiness



This figure graphically depicts my observed mean values for change in participants' perceived firm riskiness. More positive values indicate a greater increase in participants' perceived firm riskiness after viewing the revision restatement. Table 3 presents descriptive statistics.

TABLE 1

How Investment Position and Quantitative Reconciliation Affect Change in EPS Estimate–Test of Hypothesis

Panel A: Change in Participants' EPS Estimates, Mean [Standard Deviation][a]

	Quantitative Reconciliation	
Investment Position	Absent	Present
Current	-0.008 [0.047] n = 34	-0.013 [0.045] n = 32
Prospective	-0.026 [0.062] n = 32	-0.044 [0.043] n = 31

Panel B: Results of Two-Way ANOVA and Planned Contrast

Source of Variation	SS	df	MS	F-stat	p-value
Investment Position	0.019	1	0.019	7.62	<0.01
Quantitative Reconciliation	0.004	1	0.004	1.69	0.20
Investment Position x Quantitative Reconciliation	0.001	1	0.001	0.50	0.48
Error	0.310	125	0.002		
Planned Contrast (+3, +2, -1, -4)	0.024	1	0.024	9.69	<0.01[b]

[a] Table 1 presents the test of my hypothesis. The dependent variable is participants' change in EPS estimate. Figure 1 illustrates these results. Participants estimated the 2017 EPS, then viewed the firm's 10-K with the revision restatement, and then estimated the 2018 EPS. The change in EPS estimate variable is the 2018 EPS estimate minus the 2017 EPS estimate.

[b] A semi-omnibus test (untabulated) confirms that the residual variance attributable to main and interactive effects of investment position and reconciliation after accounting for my planned contrast is not significant ($F_{(2, 125)} = 0.02$, $p = 0.98$). Additionally, following Guggenmos et al. (2018), I confirm that the pattern of means visually fits the contrast weightings and I calculate the proportion of variance explained by my contrast as compared to all other non-error variance. Results indicate that my predicted interaction explains 99% of the total non-error variance. I conclude that the posited interaction adequately explains the data.

Panel C: Follow-Up Tests of Simple Effects

Source of Variation	t-stat	p-value
Effect of Investment Position given Quantitative Reconciliation Absent	1.47	0.07[c]
Effect of Investment Position given Quantitative Reconciliation Present	2.39	<0.01[c]
Effect of Quantitative Reconciliation given Current Investor	0.42	0.67
Effect of Quantitative Reconciliation given Prospective Investor	1.40	0.08[c]

[c] p-value is one-tailed equivalent for directional prediction.

TABLE 2

Descriptive Statistics—Credibility

Panel A: Questions Used to Measure Credibility[a]

1) How trustworthy is TastyBev's Management?

2) How competent is TastyBev's Management?

Panel B: Measures of Credibility for All Participants, Mean [Standard Deviation][b]

Experimental Condition (Investment Position x Quantitative Reconciliation)	Question		
	1	2	Average Credibility
Current Investor / Quantitative Reconciliation Absent [n = 34]	52.68	48.50	50.59
	[22.30]	[18.81]	[18.68]
Prospective Investor / Quantitative Reconciliation Absent [n = 32]	49.09	47.53	48.31
	[18.48]	[21.25]	[18.24]
Current Investor / Quantitative Reconciliation Present [n = 32]	47.16	52.16	49.66
	[14.73]	[15.27]	[13.46]
Prospective Investor / Quantitative Reconciliation Present [n = 31]	46.45	45.68	46.06
	[15.68]	[17.20]	[14.90]

[a] Table 2 reports descriptive statistics for participants' responses to my two questions used to measure perceived management credibility by condition. Panel A lists the two questions I use to measure perceived management credibility. I create a single measure of credibility by averaging these two questions (Cronbach's alpha = 0.78).

[b] Panel B presents means and standard deviations for the two questions by condition as well as the average for all participants. Participants respond to the first question on a 101-point scale with endpoints 0 ("Not At All Trustworthy") and 100 ("Very Trustworthy"). Participants respond to the second question on a 101-point scale with endpoints 0 ("Not At All Competent") and 100 ("Very Competent").

Panel C: Measures of Credibility for Participants that Correctly Answered the Manipulation Check Questions, Mean [Standard Deviation][c]

Experimental Condition (Investment Position x Quantitative Reconciliation)	Question		
	1	2	Average Credibility
Current Investor / Quantitative Reconciliation Absent [n = 20]	52.92	50.44	51.68
	[22.74]	[19.35]	[19.45]
Prospective Investor / Quantitative Reconciliation Absent [n = 20]	51.31	52.08	51.69
	[17.82]	[19.65]	[17.30]
Current Investor / Quantitative Reconciliation Present [n = 20]	47.29	53.63	50.46
	[14.34]	[15.42]	[13.42]
Prospective Investor / Quantitative Reconciliation Present [n = 25]	44.67	44.56	44.61
	[12.66]	[13.00]	[10.65]

[c] Panel C presents means and standard deviations for the two questions by condition as well as the average for participants that correctly answered the manipulation check questions.

TABLE 3

How Investment Position and Quantitative Reconciliation Affect Change in Participants' Perceived Firm Riskiness

Panel A: Change in Participants' Perceived Firm Riskiness, Mean [Standard Deviation][a]

	Quantitative Reconciliation	
Investment Position	Absent	Present
Current	11.41 [14.03] n = 34	8.53 [12.26] n = 32
Prospective	6.19 [21.41] n = 32	16.29 [14.39] n = 31

Panel B: Results of Two-Way ANOVA

Source of Variation	SS	df	MS	F-stat	p-value
Investment Position	51.746	1	51.746	0.21	0.65
Quantitative Reconciliation	420.084	1	420.084	1.66	0.20
Investment Position x Quantitative Reconciliation	1357.552	1	1357.552	5.34	0.02
Error	31569.466	125	252.5556		

Panel C: Follow-Up Tests of Simple Effects

Source of Variation	t-stat	p-value
Effect of Investment Position given Quantitative Reconciliation Absent	1.33	0.18
Effect of Investment Position given Quantitative Reconciliation Present	1.94	0.06
Effect of Quantitative Reconciliation given Current Investor	0.74	0.46
Effect of Quantitative Reconciliation given Prospective Investor	2.52	0.01

[a] Table 3 presents tests of regarding participants' perceived firm riskiness. The dependent variable is change in participants' perceived firm riskiness. Figure 3 illustrates these results. Participants provided an initial assessment of firm riskiness, then viewed the firm's 10-K with the revision restatement, and then provided a final assessment firm riskiness. The change in participants' perceived firm riskiness is their final rating of firm riskiness minus their initial rating.