IMPACT OF INVESTOR RELATIONS ON STOCK PERFORMANCE SURROUNDING RESTATEMENT ANNOUNCEMENTS

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Abstract: Many firms use investor relations (IR) to communicate with investors and the financial community through meetings, conference calls, and presentations. Engaging in IR provides benefits to firms, including increased liquidity, lower cost of capital, higher stock prices, and higher market value. This study evaluates IR in the context of restatements by exploring the effects of IR activities (during the pre- and post-restatement announcement periods) and investor perceived IR quality (during the pre-restatement announcement period) on cumulative abnormal returns (CAR) in the period surrounding the restatement announcement. Using a sample size of 199 restatements from S&P 500 firms from 2012 through 2018, this study adds to the growing IR literature by exploring the impact of IR on CARs in the wake of restatement announcements. While support for the hypothesized relationships was not evident in this specific sample, this study provides some insights into the relationship between IR and CAR during the period surrounding restatement announcements. This study also discusses avenues for future research to continue investigating these relationships.

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CHAPTER I

INTRODUCTION

Many firms use investor relations (IR) to communicate with investors through meetings, events, conference calls, presentations, and roadshows (NIRI Analytics, 2016a). According to the 2016 NIRI Analytics Report, 73% of large-cap firms surveyed reported allocating $1,000,000-$2,499,999 to their IR function. Marston (1996) defines IR as the connection between companies, financial professionals, and investors that allows interested parties to assess a company's financial position. IR serves to reduce information asymmetry (Rodrigues & Galdi, 2017; Agarwal et al., 2008) and increase information assimilation (Chapman, Miller, & White, 2018). As IR provides more information, there is less known by management that is not known by investors. IR serves to complement or assimilate existing disclosures, which is essential as disclosures become longer and more complex (Chapman et al., 2018). By providing a clearer picture of a firm's financial and strategic priorities, IR assists the market in assimilating information (Chapman et al., 2018). To illustrate the importance and added value of IR, examples from two S&P 500 firms, Emerson Electric and United Rentals, are provided below.

During Emerson Electric's second quarter earnings call on May 5, 2015, Emerson's Chairman and CEO, David Farr, indicated that within approximately six months the company would make a decision on whether to keep its Network Power business in the portfolio. On the May 5 call, in response to an analyst question about Network Powers strategic importance in Emerson's portfolio, Farr responded:

> *I put my sword in the ground, I think, almost 2.5 years ago. I said 3 years. So I don't think the time frame has changed one iota. I just think that what try to do at the board level is talk to the day-to-day, how do we get our costs in line quickly to deal with the price cost issues, to deal with the lower volume. And then strategically, you just don't want to ignore the strategic issues that we face as a company from our portfolio mix, and we'll do that on a systematic approach that makes sense*. (Emerson, 2015a, p. 9)

The information shared by Farr on the May 5 earnings call indicated that Network Power may be sold or spun off in the near future. On May 6, 2015, directly following the earnings call, Henry Kirn, Rohit Kadni, and Gael de-Bray (2015, p. 5) of Société Générale included Farr's comments regarding Network Power in an analyst note. Société Générale specifically noted Farr's comments regarding future portfolio decisions:

> *Specifically to the Network Power segment, CEO Farr pointed out that 2.5 years ago he said he would evaluate the business for three years and does not believe this timeframe has changed. Accordingly, EMR is focused on getting Network Power costs in line with the current low volume environment and creating value from the business*.

The inclusion of this information in the analyst note provides evidence that Farr's comments were considered to be important by professional investors and likely impacted

their investment opinions regarding Emerson. Emerson subsequently announced that it was looking to spin off Network Power in a press release on June 30, 2015 (Emerson, 2015). Ultimately Emerson sold Network Power to Platinum Equity on December 1, 2016 (Emerson, 2016).

This example illustrates the information shared by Emerson through IR activities, namely, the question and answer session of Emerson's second quarter earnings call. Investor relations provides an avenue for communicating managements' decision-making processes regarding future actions and keeping the investing community informed in a way that extends beyond the information provided in SEC filings or financial statements.

In addition to communicating with investors through IR activities such as earnings calls, conversations between management and investors represent another important IR function. The following example provides evidence of professional investors speaking directly to management after United Rentals (URI) first announced an SEC inquiry on August 31, 2004 (United Rentals, 2004a). On September 1, 2004, Joel Tiss, Henry Kirn, and Andy Kaplowitz of Lehman Brothers issued an analyst note in response to the URI's SEC inquiry (Tiss et al., 2004). They noted (p. 2), "We spoke with URI management on Monday, and the SEC inquiry came as a surprise to management. Although the company appears eager to get details out into the market, management does not yet know the scope or purpose of the inquiry."

The analysts' comments provide evidence that Lehman contacted URI as soon as the inquiry was announced to obtain more information. Following the announcement of the SEC inquiry, URI's stock dropped 9.3% from August 30 to September 1, 2004 (United Rentals, 2004b). The inquiry led to an SEC investigation resulting in URI restating its 2002-2003

financials (United Rentals, 2008). The URI SEC inquiry and investigation resulted in two years of restated financials and a $14 million settlement due to financial fraud (Accounting Today, 2008).

As demonstrated in the example provided above, IR may be particularly important during times of high uncertainty or crisis. The Lehman Brothers analyst note specifically mentions an analyst contacted URI's management to request additional information regarding the SEC inquiry and provides evidence that during this uncertain time investors were seeking additional information from URI. When uncertainty is high, investors may draw conclusions based on inaccurate or incomplete financial information, leading to knee-jerk reactions or overcorrections by the market. As a result, companies increase their investment in IR during times of greater uncertainty since reducing uncertainty provides the highest potential for future gains (Kirk & Vincent, 2014). Investing in IR during periods of uncertainty may provide an ideal opportunity for firms to maximize the benefits from their IR function.

An ideal context to evaluate IR is the period surrounding restatement announcements, which are known to have a high degree of uncertainty. In the wake of restatement announcements, investors know less about a firm than they knew the day before the announcement, creating a high level of uncertainty. After restatement announcements, investors question the information provided by firm management and the quality of financial statement reporting (Badertscher, Hribar, & Jenkins, 2011; Palmrose, Richardson, & Scholz, 2004; Hribar & Jenkins, 2004; Ettredge, Huang, & Zhang, 2013). Using IR to keep investors informed during this period by providing more information and helping to assimilate the information shared may help mitigate adverse market reactions related to restatements.

The restatement literature provides strong evidence of negative market reactions following restatement announcements (Ettredge et al., 2013; Burks, 2011; Badertscher et al., 2011; Kravet & Shevlin, 2010; Palmrose et al., 2004; Hribar & Jenkins, 2004; Anderson & Yohn, 2002; Dechow, Sloan, & Sweeney, 1996). Hribar and Jenkins (2004) found negative 4-12% cumulative abnormal returns (CARs) following restatement announcements. Lack of information assimilation by the market may contribute to negative market reactions (Chapman et al., 2018). If information is available but not easily understood by the market, it is of little value and may not be considered for decision-making purposes. Using IR to provide investors with a clear understanding of the information surrounding a restatement may help manage expectations and reduce the negative impact on stock returns.

In this study, I answer the call to conduct additional IR research (Agarwal et al., 2016; Kirk & Vincent, 2014) and add to the nascent investor relations literature. Following Chapman et al. (2018), I contribute to the IR literature by evaluating IR in the context of restatement announcements, an event-specific circumstance in which IR may be particularly important for firms. I also add to the restatement literature by providing additional insights into which aspects of investor relations impact stock returns and market reactions following restatement announcements.

The accounting literature has yet to evaluate the relationship between investor relations and stock returns surrounding restatement announcements. Thus, I apply the accounting and finance literature on investor relations to examine IR leading up to and directly following restatement announcements. I investigate whether: (1) IR activities during the pre-restatement announcement period, (2) investor perceived IR quality during the pre-restatement announcement period, and (3) IR activities during the post-restatement

announcement period are considered by the market when determining price implications in the period surrounding restatement announcements.

The study of investor relations in the context of restatement announcements has practical and theoretical implications. From a practical perspective, evaluating IR as it relates to restatements should help firms gain a better understanding of how investor relations can help mitigate the negative impact on stock prices in the wake of restatements. Investor relations reduces information asymmetry by providing more information to the investing community through conference calls, meetings, and presentations. IR also helps the market assimilate information as financial statement users interpret and understand the broader implications of the restatement information, including how restatements may impact the value of the firm (Chapman et al., 2018).

Evaluating IR in the context of restatements may provide insights into how firms can use IR during the pre- and post-announcement periods to reduce negative financial impacts and may help answer an important question. *During times of uncertainty, when communication with the investing community matters most, can IR help firms reduce negative stock returns during the period surrounding restatement announcements?* The following sections include a review of the relevant literature in Chapter II, the theoretical considerations and hypothesis development in Chapter III, the research design and empirical methodologies in Chapter IV, and the results and conclusions in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

The following section includes a review of the accounting and finance literature related to investor relations and restatement literature streams. The relevant investor relations literature includes the benefits and potential drawbacks to engaging in investor relations and the role of the information environment, information asymmetry, and information assimilation in investor relations. The relevant restatement literature includes an overview of the well-documented market reactions to restatements, restatement disclosure methods, and the impact of disclosure during the pre- and post-announcement periods on stock returns following restatement announcements. This section concludes with an overview of investor relations in the context of restatements and explains how this study extends the emerging investor relations literature by evaluating the impact of IR activities and investor-perceived IR quality on stock returns following restatement announcements.

Investor Relations

Given the broad audience of individuals with a vested interest in understanding a firm's disclosures and financial position, the study of investor relations is of interest to practitioners, researchers, and investors. IR is a relatively new area of study within the

accounting and finance literature. The investor relations literature remains limited, providing many opportunities for future research (Agarwal et al., 2016). According to the National Investor Relations Institute (NIRI Board of Directors, 2003), "Investor relations is a strategic management responsibility that integrates finance, communication, marketing and securities law compliance to enable the most effective two-way communication between a company, the financial community, and other constituencies, which ultimately contributes to a company's securities achieving fair valuation." Investor relations often serves as a distinctly separate organizational function at the intersection of finance and communication (Laskin, 2009; Hoffmann, Tietz, & Hammann, 2018). Communication is an essential component of investor relations, but IR is primarily viewed in connection with firms' financial functions (Petersen & Martin, 1996).

According to Laskin (2009), the historical underpinnings of IR in the United States began in the early 1800s when publicly traded companies began issuing stock to raise capital for expansion. The first stock issuances represented the first separation of management and ownership interests. According to Hoffman et al. (2018), the field of IR and the idea of an organizational function focusing on strategic communication of financial information began to grow in the 1960s when executives began using IR to communicate with investors and shareholders. As a separate organizational function, IR has only existed for roughly 50 years in the United States (Hoffman et al., 2018). IR grew in popularity in the 1980s and 1990s. According to Laskin (2009), more firms used IR to communicate with investors. After many highly publicized scandals, including Enron and Tyco, in the early 2000s, IR was used to help restore investor confidence. Building trust and creating a channel for open communication between firms and investors assisted in rebuilding investors' confidence.

Much of the existing IR literature provides evidence of the benefits related to engaging in IR. Karolyi and Liao (2017) suggest that IR positively impacts institutional ownership, media coverage, and market value. These positive impacts may explain why firms allocate significant resources to IR programs (Bank of New York, 2017; Hong & Huang, 2005; Rodrigues & Galdi, 2017). The growing literature suggests that firms engaging in IR experience an increased analyst following (Karolyi & Liao, 2017; Kirk & Vincent, 2014; Agarwal et al., 2008), increased liquidity (Agarwal et al., 2008, 2016; Kirk & Vincent, 2014), lower cost of capital (Ly, 2010), higher stock prices (Agarwal et al., 2008), higher market value (Karolyi & Liao, 2017; Agarwal et al., 2016), positive future operating performance (Jiao, 2011), reduced information asymmetry (Brennan & Tamarowski, 2000), and more robust information environments (Kirk & Vincent, 2014).

While most studies showcase the benefits of engaging in IR, there is some evidence to suggest a potential downside or dark side of IR that reduces firm value (Karolyi & Liao, 2017). Peasnell, Talib, and Young (2011) find that IR firms are more negatively affected by fluctuations in investor confidence and reductions in the overall market following unethical behavior and corporate scandals. Solomon (2012) finds that firms with external IR consultants have more positive than negative press releases present in their media coverage, creating a "media spin" that results in higher returns surrounding news announcements but lower returns around earnings announcements. Cohen, Lou, and Malloy (2013) find that "casting" firms, those who select only analysts providing the highest recommendations to participate in earnings conference calls, experience an increased likelihood of a future restatement. Dennis (1973) finds that hiring an external IR firm does not affect the corporation's common stock price, on average.

Information Environment, Information Asymmetry, and Information Assimilation

Investor relations impacts multiple aspects of the information environment, including information asymmetry and information assimilation. IR increases the information environment (Kirk & Vincent, 2014), decreases information asymmetry (Rodrigues & Galdi, 2017), and increases information assimilation (Chapman et al., 2018). Kirk and Vincent (2014) find that firms engaging in IR have more robust information environments. IR activities such as conference calls (Beyer et al., 2010), presentations (Francis, Hanna, & Philbrick, 1997), conversations, and interactions with the investment community increase the information environment by voluntarily disclosing information. A well-developed information environment allows IR to assist firms throughout the normal course of business and during high levels of uncertainty or times of crisis (Kirk & Vincent, 2014).

Investor relations activities such as conference calls and presentations increase the amount of information available to investors, which decreases information asymmetry (Ly, 2010). As more information is made available through IR, the disparity of what is known by management but what is not known by investors decreases. The increased communication and disclosure help to reduce information asymmetry and information risk (Ettredge et al., 2013). Providing information to investors through IR activities may also help assimilate the information and provide a more thorough understanding, increasing investor's ability to use the information for decision-making purposes (Chapman et al., 2018). The information provided in press releases, annual reports, or presentations may not adequately convey information that can be easily understood. As disclosures become longer and more complex, the role of information assimilation becomes even more critical (Chapman et al., 2018). IR can help with the assimilation of information by the market by assisting market participants

in understanding how certain information contributes to the broader picture of the firm and how it impacts firm value. Chapman et al. (2018) find that firms with internal IR directors assisted with information assimilation by the market leading to positive market effects, including lower stock price volatility, lower analyst forecast dispersion, and higher analyst forecast accuracy.

Restatement Announcements

Restatements occur for a variety of reasons, including misapplication of accounting standards, intentional misrepresentation of financial information, and accounting errors (Plumlee & Yohn, 2010). Restatements have adverse effects on corporations, executives, and the reliability of financial information provided by firms (Ettredge et al., 2013). Restatements lead to greater information asymmetry and increase information risk, resulting in negative market reactions (Ettredge et al., 2013). The strong negative market reactions to restatements are well documented in the literature. Prior studies find CARs ranging from -4% to –12% (Ettredge et al., 2013; Burks, 2011; Badertscher et al., 2011; Kravet & Shevlin, 2010; Hribar & Jenkins, 2004; Palmrose et al. 2004; Anderson & Yohn, 2002; Dechow et al., 1996).

Market Reactions Following Restatements

Evidence suggests that market reactions following restatement announcements are more negative for restatements involving revenue recognition, fraud (Palmrose et al., 2004; Anderson & Yohn, 2002), longer misreporting periods, a greater number of financial accounts, less transparent restatement disclosure methods (Hogan & Jonas, 2016; Plumlee & Yohn, 2008), and restatements initiated by auditors or management (Palmrose et al. 2004; Hribar & Jenkins, 2004). Lower cumulative abnormal returns following restatement announcements are attributed in part to the increased level of uncertainty during the

restatement period. The uncertainty surrounding restatements is evidenced by reduced trust between investors and restating firms (Gordon et al., 2013), investors' concerns about the ability to rely on the information provided by management, and the quality of the financial information provided by restating firms (Hribar & Jenkins, 2004).

Palmrose et al. (2004) find an average of -9% CARs using a two-day window surrounding restatement announcement dates. Palmrose et al. (2004) find that lower abnormal returns following restatements are associated with restatements involving fraud, a higher number of financial accounts, restatements that reduce reported income, restatements with a longer misreporting period, and restatements initiated by auditors or management (Palmrose et al., 2004; Hribar & Jenkins, 2004). The length of the restatement misreporting period also impacts CAR (Sievers & Sofilkanitsch, 2018). Palmrose et al. (2004) find CAR of -10% for restatements that impact more than one quarter compared to CAR of -5% for those only impacting one quarter.

Anderson and Yohn (2002) find negative market returns during the seven-day window beginning three days before the restatement announcement date and ending three days after the date. The negative market reactions following the restatement announcements are more severe for restatements involving revenue recognition and fraud, with negative cumulative abnormal returns of -13.38% for restatements involving revenue recognition and negative CAR of -19.72% for fraud-related restatements.

Badertscher et al. (2011) find more (less) negative CAR when managers bought (sold) stock before an accounting restatement announcement and less (more) negative CAR when companies repurchase (issue) stock before an announcement. Badertscher et al. (2011) use two return windows to evaluate the restatement impact on firms' CAR. The first window is

five days around the restatement beginning two days before the restatement announcement and ending two days after. The second began three days before the restatement announcement date and ended 60 days after to evaluate results in the post-restatement period.

Restatement Disclosure Methods

The disclosure method for restatement announcements has been shown to impact market reactions following restatement announcements (Hogan & Jonas, 2016; Scholz, 2014; Plumlee & Yohn, 2008). There are two widely accepted disclosure methods for restatements. Reissuances ("big R" restatements) are disclosed through an 8-K SEC filing and are considered more transparent than revisions ("little r" restatements) (Hogan & Jonas, 2016). Revision restatements are considered less transparent and are not disclosed through an 8-K filing (Hogan & Jonas, 2016). Reissuances generate more negative market reactions compared to revisions (Hogan & Jonas, 2016; Plumlee & Yohn, 2008). 8-K filings for item 4.02 are required in the case of "Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review" (SEC, 2019). Scholz (2014) finds stronger negative reactions to reissuance restatements compared to revision restatements. Reissuance restatements reduced share prices by 5.3% following restatement announcements compared to a 0.6% reduction in share prices for revision restatements (Scholz, 2014; Sievers & Sofilkanitsch, 2018). Restatement disclosure methods have yet to be studied in the context of investor relations. Due to data limitations, this study focuses only on revision restatements to evaluate the relationship between investor relations and stock returns following restatement announcements.

Pre- and Post-Restatement Announcement Periods

IR activities occurring during the pre- and post-restatement announcement periods each offer different insights into management choices and decisions. Gordon et al. (2013) find that increased pre-announcement discretionary disclosure surrounding restatement announcements results in less negative market reactions. Gordon et al. (2013), explain that these results may indicate managements' openness, acknowledging their efforts to reduce information asymmetry by increasing the level of trust between firms and investors. Gordon et al. (2013) measure pre-announcement disclosure using press releases issued during the 12-months before restatement announcements and find the quantity and the tone of press releases issued 12-months before the announcement are positively associated with abnormal returns at the time of restatement announcements.

Gordon et al. (2013) also find that increased concurrent discretionary disclosure surrounding restatement announcements result in less negative market reactions. Concurrent and post-announcement disclosure occurring in the wake of a restatement likely reflects management's choices related to a specific restatement event (Gordon et al., 2013; Palmrose et al., 2004). Disclosure of information during the post-restatement announcement in response to a specific restatement event may not be enough to mitigate the negative market reaction following restatement announcements (Gordon et al., 2013). Thus, I evaluate both pre- and post-restatement announcement IR activities.

Investor Relations and Restatements

The study of investor relations in event-specific circumstances, such as restatement announcements, largely remains unexplored in the literature. Studies specific to IR and restatements are minimal and do not directly assess IR's impact on stock returns following an

accounting restatement. Chapman et al. (2018) find that the presence of an internal IR officer mitigates the contagion effect from accounting restatements for peer firms in the same industry. However, they do not explore how IR activities surrounding a restatement impact firms' stock performance. The exogenous shock from peer firm restatements provides insights into the impact of IR on stock returns for similar firms (Chapman et al., 2018). However, the question remains: how do IR activities surrounding restatement announcements impact firms' stock returns?

During times of high uncertainty, such as the time surrounding a restatement, firms may benefit from reducing uncertainty by engaging in more IR activities and increasing the information environment. Companies increase their investment in IR during times of greater uncertainty, as the reduction of uncertainty provides the highest potential for future gains (Kirk & Vincent, 2014). Due to the high level of uncertainty during the period surrounding restatement announcements, an ideal context is provided to evaluate the impact of IR on stock returns. In the wake of restatement announcements, open and honest communication between firms and the investment community becomes a top priority (Ettredge et al., 2013). Using investor relations to communicate with investors about restatements may reduce uncertainty, reduce information asymmetry, and increase information assimilation, allowing for less severe negative stock returns.

CHAPTER III

THEORY AND HYPOTHESIS DEVELOPMENT

Investor relations activities such as meetings, conference calls, and presentations increase the information shared with investors. Enhanced communication with investors through IR activities reduces information asymmetry by increasing the amount of information available to them (Ly, 2010). Disclosing more information may reduce the disparity between what management knows versus what is known by investors or the public, thereby decreasing information asymmetry. In addition, communicating with stakeholders through IR activities may also help assimilate information by the market so users of financial information can understand the implications of restatement announcements and use the information for decision-making purposes (Chapman et al., 2018). If information is available but not understood by the intended users, the information is of little consequence. Information assimilation allows information to be more easily understood. In the case of restatements, prompt communication is essential as it takes time to process and understand the information related to restatement announcements. Quicker communication through investor relations provides investors with more time to review and understand the information.

To fully assess the impact of IR activities, it is essential to consider IR activity that occurs during the pre-restatement announcement (pre-announcement) and post-restatement announcement (post-announcement) periods. IR activity from each period may capture different information. IR activity before the restatement announcement captures the information environment more broadly, whereas the new IR activity during the period immediately following the announcement is likely in direct response to the restatement announcement. IR activity during the post-announcement period combined with investor relations during the pre-announcement period provides a comprehensive view of IR activity related to restatement announcements.

Evaluating IR activity during the pre-announcement period captures the ongoing efforts by management to self-monitor. Pre-restatement IR activity may also indicate management's willingness to disclose information on an ongoing basis not only during a significantly adverse event such as a restatement (Gordon et al., 2013; Palmrose et al., 2004). I assessed the impact of IR activity during the pre-announcement period on the CAR during the period surrounding restatement announcements. Following Gordon et al. (2013), I evaluated pre-announcement IR activity using transcripts for IR activities during the 365 days leading up to the restatement announcement date. Transcripts were used as a proxy to measure IR activity to capture the count of conference presentations, earnings calls, M&A calls, Analyst/Investor Days, Shareholder/Analyst calls, and Guidance/Update calls for each firm during the 365 days leading up to announcements. I anticipated a stronger positive relationship between IR activity during the pre-announcement period and CARs during the period surrounding restatement announcements. Thus, I propose the following hypothesis, stated in the alternative form.

Hypothesis 1: *Firms that engage in more IR activity during the 365 days before a restatement announcement (pre-announcement period) will experience less negative (higher) cumulative abnormal returns (CAR) during the period surrounding the restatement announcement.*

In addition to the quantity of information provided through investor relations during the pre-announcement period, it is also important to consider IR quality. Regardless of the amount of information provided, it must be accurate and understandable to add value. If the information provided through IR cannot be understood or assimilated by the market, it is not likely to be considered for decision-making purposes. Investor relations literature calls for future research to investigate IR quality (Kirk & Vincent, 2014). Prior literature found that firms with higher perceived IR quality experience higher abnormal returns and higher market value (Agarwal et al., 2008). If the information provided through investor relations is perceived to be of higher quality by investors, it may have more of an effect on CARs surrounding restatement announcements. In response to the call from Kirk and Vincent, 2014, I evaluated the impact of investor perceived IR quality on CAR following restatement announcements. Building on the findings of Agarwal et al. (2008), I anticipated that firms with higher investor perceived IR quality during the pre-announcement period would experience less negative (higher) cumulative abnormal returns during the period surrounding restatement announcements. Thus, I propose the following hypothesis, stated in the alternative form.

Hypothesis 2: *Firms with higher investor perceived IR quality in the latest II poll before the restatement announcement (pre-announcement period) will experience less*

negative (higher) cumulative abnormal returns during the period surrounding the restatement announcement.

Considering that firms are likely not aware of a restatement before it is discovered, IR activity occurring during the post-announcement period is important to evaluate. Post-announcement IR activity is likely to be in response to a restatement announcement. IR activity and investor perceived IR quality are relevant during both the pre- and post-announcement periods. While IR activity (Hypothesis 1) and investor perceived IR quality (Hypothesis 2) are both evaluated during the 365-day pre-announcement period, the post-announcement period focuses specifically on IR activity that takes place during the three days following the restatement announcement (Hypothesis 3). The short three-day window of time following announcements does not provide adequate time to properly measure IR quality during the post-announcement period as these are unlikely to have changed over such a short window.

IR activity during the post-announcement period is important for management to address the concerns of investors by disclosing information related to the restatement. The post-announcement period likely captures management's one-time or short-term communication efforts in response to a single restatement event (Gordon et al., 2013; Palmrose et al., 2004). Management's response in the wake of a restatement may be particularly important to help investors understand the impact of the restatement. I evaluated IR activity during the post-announcement period in the days directly following the restatement announcement. Timely communication about the factors influencing the restatement may help mitigate the negative stock impacts in the wake of the announcement. Extending the work of Gordon et al. (2013), I evaluated the impact of IR activity during the post-announcement period from the day of

the restatement announcement through the two days after the announcement. I anticipated a strong positive relationship between IR activity during the post-announcement period and CARs during the period surrounding restatement announcements. Thus, I propose the following hypothesis, stated in the alternative form.

Hypothesis 3: *Firms that engage in more IR activity during the period directly following a restatement announcement (post-announcement period) will experience less negative (higher) cumulative abnormal returns (CAR) during the period surrounding the restatement announcement.*

CHAPTER IV

EMPIRICAL METHODOLOGIES AND RESEARCH DESIGN

Sample Selection and Data Sources

This chapter provides the sample selection process used to investigate the impact of investor relations during the pre- and post-announcement periods on stock returns surrounding restatement announcements. Table 1 provides a summary of the sample selection process leading to the final sample. The initial sample of restatements includes 3,270 restatements from July 1, 2012, through June 30, 2018, obtained from Audit Analytics (AA). The final sample focuses on S&P 500 firm restatements, excluding 3,059 non-S&P 500 firm restatements. Firms listed on the S&P 500 index as of July 1 each year from 2012 through June 30, 2018, remain in the sample for a subtotal of 211 firms. The sample excludes nine reissuance restatements due to the limited number of reissuances available in the sample and the significant differences between reissuance ("big R") restatements and revision ("little r") restatements (Hogan & Jonas 2016; Plumlee & Yohn, 2008). Finally, the sample excludes three restatements due to missing control variable data. The final number of restatements included in the sample is 199. The final sample focuses on S&P 500 firms because the S&P 500 represents nearly 80% of market capitalization in the United States (S&P Dow Jones Indices, 2019), thus providing a representative sample of large U.S. firms. The sample period begins in 2012 due to data limitations for two of the independent variables. Capital IQ, the

transcript data source for pre- and post-IR activity, only has limited transcript data available before 2012.

Table 1. Sample Selection Description and Composition

Sample Details	Number of Restatements
Restatements in Audit Analytics for sample period 7/1/2012 - 6/30/2018	3,270
Restatements for non-S&P500 firms	(3,059)
"Big R" restatements with 8-K item 4.02	(9)
Restatements eliminated due to missing control data	(3)
Restatements included in the final sample	199

The data sources used for each variable included Audit Analytics (AA), Compustat, Eventus, Capital IQ, *Institutional Investor (II) Magazine*, and CRSP. AA was used to obtain the initial list of restatements. It is the most recent and prominent data source for restatement studies (Sievers & Sofilkanitsch, 2018). I matched the restatements from the AA database by company name, ticker, and f-key to the Compustat Annual Index Constituents for the S&P 500. Eventus was used to calculate the dependent variable, CAR, using data from the Center for Research in Security Prices (CRSP). Eventus calculated the CAR for the +2 to -2 five-day event window.

The data sources for pre- and post-IR activity independent variables included Capital IQ and *Institutional Investor (II) Magazine*. Capital IQ provided the number of transcripts (calls) for presentations and conference calls that took place during the pre- and post-announcement periods. IR activity was measured separately for the pre- and post-announcement periods by calculating the number of calls before the announcement date (*Calls Before*) and capturing whether a call took place on or after the announcement date (*Call After*). Data provided by *Institutional Investor (II) Magazine* captured investor perceived IR quality (*Top Three II Ranking*). The II database provided the ranking of each firm's IR program based on votes

received for the U.S. Investor Relations Perception Study conducted by *Institutional Investor (II) Magazine*.

The control variables were obtained from the AA and CRSP databases. The restatement-specific controls related to fraud, SEC, auditor, and board/audit committee involvement, impact on core earnings, earnings change, pervasiveness, and length came from the AA database. The firm size and leverage control variables were acquired using Compustat.

Research Methodology and Empirical Model Specification

Dependent Variable

The dependent variable is *cumulative abnormal returns* (*CAR*) measured over five days extending from the two days before the restatement announcement to the two days after. (i.e., -2 through +2) with day 0 representing the restatement announcement date. Following Hribar and Jenkins (2004), this short-term event window captures the impact of the restatement announcement on stock returns in the days immediately surrounding the announcement, to capture any information leakage. Eventus was used to calculate the *CARs* for each model. Using Eventus, the following market-adjusted estimation model was used to calculate the abnormal returns using market-adjusted returns (Brown & Warner, 1985):

$$AR_{it} = R_{it} - R_{mt}$$

where

AR_{it} = abnormal return of stock *i* on day *t*,

R_{ir} = return of stock *i* on day *t*,

R_{mt} = return of the CRSP value-weighted index on day *t*.

Using the CRSP Daily Stock Database, the daily stock returns R_{it} were calculated by subtracting the beginning daily stock price from the closing stock price to find the daily

change in stock price for each day during the event window. The change in daily stock price plus cash dividends paid divided by the closing stock price two days before the announcement date. Following Palmrose et al. (2004) the market return, R^{mt} was obtained from the CRSP value-weighted index for each day. The daily abnormal return AR_{it} was calculated for each stock by subtracting the daily market return per the CRSP value-weighted index from the daily stock return.

The daily abnormal returns for each stock *i*, were summed to calculate the *CARs* over the five day, -2 to +2, event window surrounding the restatement announcement. The summation of the abnormal returns is calculated as follows.

$$CAR_i[-2,+2] = \sum_{t=k}^{l} AR_{it}$$

CAR_i = the summation of daily abnormal returns for each stock *i*. The AR_{it} for the five-day event period beginning with k = day – 2 of the event window through l = day + 2 of the event window.

To evaluate the relationship between investor relations and stock returns surrounding the restatement announcement, I used the following regression equation to regress each of the three independent variables: 1) investor relations activities during the pre-restatement announcement period (*Calls Before*), 2) an indicator for investor relations activities during the post-announcement period (*Call After*), and 3) investor perceived IR quality (*Top Three II Ranking*) on *CAR*. Controls for restatement materiality, severity, and firm size were included. A complete list of control variables is provided below and available in Appendix I. Following Chapman et al. (2018) the empirical model used for this regression is as follows.

$$CAR_i\,[-2, +2] = \beta_0 + \beta_1\, Investor\ Relations_i + Controls_i + \varepsilon_i$$

CAR_i [-2, +2] is the cumulative abnormal return for each stock measured from two days before the restatement announcement date (-2) through two days after the restatement announcement (+2). β_1 *Investor Relations*$_i$ represents each of the three independent variables: *Calls Before*, *Call After*, and *Top Three II Ranking*. *Controls*$_i$ includes restatement-specific controls including whether the restatement involved fraud, the board of directors/audit committee, an SEC investigation, the firm's auditor if the restatement impacted core earnings, a change in earnings as a result of the restatement, the number of accounts impacted, the period of time the restatement covered, firm size, and leverage.

Primary Independent Variables

Building on Kimbrough and Louis (2011) and Green et al. (2014), who used transcripts to evaluate IR activity, I measured *Calls Before* using a count of conference call and presentation transcripts obtained from the Capital IQ database. The transcript types included Conference Presentations, Earnings Calls, M&A Calls, Analyst/Investor Days, Shareholder/Analyst Calls, and Guidance/Update Calls. IR activity during the pre-announcement period captured the number of transcripts during the 365 days before the restatement announcement. I measured *Call After* based on if a conference call existed in the Capital IQ database for the restating firm from the day of the restatement announcement through the two days after the announcement. The transcript types used to measure *Calls Before* are the same types used to measure *Call After*.

Agarwal et al. (2008) find that investor perceived IR quality leads to higher market value and higher abnormal returns. Building on prior research, I used the votes of buy-side analysts in the "Best Investor Relations Program" poll by *Institutional Investor* (II) Magazine to classify each firm's investor perceived IR quality. *Top Three II Ranking* is an indicator

variable based on if the firm was ranked in the top three within their industry by buy-side analysts. Firms ranked within the top three by industry are considered to have higher investor perceived IR quality compared to firms not ranked within the top three in their industry.

Control Variables

Consistent with the control variables used in prior restatement literature, the selected variables are intended to control for the financial statement effects following restatements (Gordon et al., 2013). Following Chapman et al. (2018), Gordon et al. (2013), Badertscher et al. (2011), and Palmrose et al. (2004), I controlled for restatements involving fraudulent activity (*Fraud*), an SEC investigation (*SEC Investigation*), board or audit committee knowledge of the restatement (*Board/Audit Committee)*, auditors' knowledge of the restatement (*Auditor Letter or Discussion)*, and whether the restatement impacted the firm's core earnings (*Core Earnings*).

Following Gordon et al. (2013), to control for the materiality of the restatements, I included the change in earnings related to the restatement (*Earnings Change)* calculated by dividing restated earnings by total assets at the end of the prior period (*ACC Rest NI/Assets)*. To capture the pervasiveness of the restatement (*Pervasiveness*), I controlled for the number of account groups involved in the restatement. Due to data limitations I used five of the seven account groups used by Gordon et al. (2013), including revenue, cost of sales, operating expenses, merger-related, and other. Also capturing pervasiveness, I included the total time period of the restatement, measured as 0.25 for each quarter (*Length*) of earnings restated.

Following Gordon et al. (2013) and Palmrose et al. (2004) firm size (*Size*) and leverage (*Leverage*) controls were included as well as interactions between them and the magnitude of the restatement (*Earnings Change)*. Leverage (*Leverage*) is calculated as the book value of

long-term debt divided by the book value of total assets as of year end prior to the restatement announcement and firm size (*Size)* is calculated as the natural log of the book value of total assets at the year end prior to the restatement announcement. Interaction effects for both leverage and firm size and the change in earnings resulting from the restatement were included (*Leverage*Earnings Change* and *Size*Earnings Change).* A complete list of variable definitions is available in Appendix I.

CHAPTER V

RESULTS AND DISCUSSION

Descriptive Statistics and Correlations

The final sample consisted of 199 restatements from S&P 500 firms over a six-year period from July 1, 2012 to June 30, 2018. A fiscal year of July through June was used to align the restatements with the most recent *Institutional Investor* (II) *Best IR Program* ranking. II voting for the *Best IR Program* occurs during May and June of each year. The restatements included in the final sample by year are shown in Table 2.Table 2 Each year in the sample period includes approximately 10-20% of the total sample. The highest number of restatements, 39/199 or 20% of the final sample, are from the period ended June 30, 2014. The lowest number of restatements, 19/199 or 10% of the final sample, are from the period ended June 30, 2018. The restatements by industry are shown in Table 3. The industry was determined using the two-digit SIC codes associated with each firm's industry. A majority of the restatements included in the sample, 102/199 or 51%, represent Manufacturing firms, followed next by Finance, Insurance, & Real Estate firms, which make up 28/199 or 14% of the sample.

Table 2. Restatements by Year Included in the Sample

Years	Restatements	Percent of Sample
FY Ended June 30, 2013	37	19
FY Ended June 30, 2014	39	20
FY Ended June 30, 2015	37	19
FY Ended June 30, 2016	36	18
FY Ended June 30, 2017	31	16
FY Ended June 30, 2018	19	10
Total	199	100

Table 3. Restatements by Industry Included in the Sample

Industry	Count	Percentage of Total
Mining	10	5
Construction	3	1
Manufacturing	102	51
Transportation & Public Utilities	17	9
Wholesale Trade	4	2
Retail Trade	13	7
Finance, Insurance, & Real Estate	28	14
Services	22	11
Total	199	100

Note: Industries are defined using two-digit SIC codes: mining = 10-14, construction 15-17, manufacturing 20-39, transportation & public utilities = 40-49, wholesale trade = 50-51, retail trade = 52-59, finance insurance and real estate = 60-67, services = 70-89.

The descriptive statistics for each variable are shown in Table 4. Panel A displays the descriptive statistics for the continuous variables, including *CAR*, *Calls Before*, *Earnings Change*, *Length* of the restatement period, *Leverage*, *Firm Size*, and *Pervasiveness*.

Table 4 provides the mean, median, standard deviation, minimum, and maximum for each continuous variable. The mean value for *CAR* (-0.0034) is very close to zero, with values in the sample ranging from -31% to 25% compared to the value weighted index. On average the restatements in the sample included approximately seven and one-half *Calls Before* the restatement announcement with values ranging from one to 22 calls before. The mean value for *Earnings Change* (-0.0014) is very small, on average with values ranging

from a nearly 11% decrease in earnings to a 0.95% increase. 144/199 (72%) of the restatements had no impact on earnings, 16/199 (8%) had a positive impact on earnings, and 39/199 (20%) had a negative impact on earnings. The mean value for restatement *Length* is 1.86 years with values ranging from .25, one quarter, to 17.75 years. The mean value for *Leverage* dividing book value of long-term debt by total assets is .26 with values ranging from 0.00 to 0.87. The mean *Size* of firms in the sample using the natural log of the book value of total assets is 9.77 with values ranging from 6.13 to 14.55. The mean *Pervasiveness*, or number of account groups involved in the restatement is 1.23 account with values ranging from 1 to 3 accounts.

Panel B displays the discrete variables, including *Top Three II Ranking*, *Call After*, *Fraud*, *Core Earnings*, *Auditor Letter*, *SEC Investigation*, and *Board or Audit Committee Involvement*. Panel B provides the number of each discrete variable represented in the sample and the percentage of each variable present in the sample. For example, the *Top Three II Ranking* number shows that 36/199 or 18% of the firms included in the sample were ranked within the top three in their industry in the latest II poll. As for *Call After*, approximately half, 94/199 or 47% of the restatements included in the sample completed at least one call after the restatement was announced. As for the control variables, only one restatement (0.5% of the sample) involved *Fraud*, 37 (19%) impacted the firms *Core Earnings*, 39 restatements (20%) involved an *Auditor Letter or Discussion*, two restatements (1%) involved an *SEC Investigation*, and one restatement (0.5%) involved the Board/Audit Committee). Appendix I provides a full list of variable definitions.

Table 4. Descriptive Statistics for All Variables

Panel A Continuous Variables

Variable Name	*N*	Mean	Median	SD	Minimum	Maximum
Dependent Variable						
CAR	199	-0.0034	0.0004	0.0580	-0.3139	0.2533
Independent Variable						
Calls Before	199	7.6533	7.0000	3.1647	1.0000	22.0000
Control Variables						
Earnings Change	199	-0.0014	0.0000	0.0094	-0.1061	0.0095
Length	199	1.8668	1.2500	1.7445	0.2500	17.7500
Leverage	199	0.2622	0.2520	0.1648	0.0000	0.8756
Size	199	9.7721	9.5853	1.3185	6.1348	14.5596
Pervasiveness	199	1.2312	1.0000	0.5093	1.0000	3.0000

Panel B Discrete Variables

Variable Name	*N*	Number	Percent
Independent Variables			
Top Three II Ranking	199	36	18.0
Call After	199	94	47.0
Control Variables			
Fraud	199	1	0.5
Core Earnings	199	37	19.0
Auditor Letter or Discussion	199	39	20.0
SEC Investigation	199	2	1.0
Board/Audit Committee	199	1	0.5

The correlations between each variable are presented in Table 5. The significance level of each correlation is indicated within the correlation matrix. There does not appear to be strong or statistically significant correlations between the independent variables: *Top Three II Ranking*, *Calls Before*, and *Call After*. *Top Three II Ranking* and *Calls Before* appear to be relatively uncorrelated (-0.01). *Top Three II Ranking* and *Call After* have a weak positive correlation of 0.13. The correlation between *Calls Before* and *Call After* also appears to be very low (0.02).

Calls Before measured the quantity of calls that occurred during the 365 days leading up to the restatement announcement. *Call After* captured whether the company had a conference call within two days of a restatement announcement. *Calls Before* and *Call After* assume

each call is equivalent and do not take into consideration the information shared during the call or the duration of the call. While conference calls are one type of IR activity, there are other factors including one-on-one private calls and conversations between firms and investors that are not captured by these measures.

As for the *Top Three II Ranking* variable, when investors determine which firms they vote for in the II poll, they are likely to consider more than just the public conference calls hosted by a firm. Investors likely also consider individual meetings, personal experiences, and other communication with firm representatives. The additional components of IR considered by buy-side analysts may help explain the lack of correlation between the *Calls Before, Call After,* and *Top Three II Ranking* variables as well as each variable's specific relation to restatements. The correlations between the independent variables and the dependent variable, *CAR*, also do not appear to be strong or statistically significant. The relationship between the *Top Three II Ranking* and *CAR* appears to have a weak negative correlation (-0.10). The relationship between *Calls Before* and *CAR* also appears to be weak and negatively correlated (-0.04). The relationship between *Call After* and *CAR* is weak and slightly positive (0.06).

Table 5. Correlations for the Restatement Sample (N = 199)

Panel A

	Fraud	Auditor Letter or Discussion	SEC Investigation	Board/Audit Committee	Top Three II Ranking	Calls Before	Call After	Pervasiveness
Fraud		-0.0351	0.7053***	-0.0051	-0.0334	0.0372	0.0751	-0.1075
Auditor Letter or Discussion			-0.0497	0.1439**	-0.0347	0.0340	-0.1628**	0.0004
SEC Investigation				-0.0072	-0.0474	0.0209	0.0056	-0.1525**
Board/Audit Committee					-0.0334	0.0372	-0.0672	0.0323
Top Three II Ranking						-0.0103	0.1306	0.0340
Calls Before							0.0268	-0.1036
Call After								0.0144

Panel B

	Size	Leverage	Earnings Change	CAR	Lev-Change in Earnings Interaction	Size-Change in Earnings Interaction	Core Earnings
Fraud	0.0122	0.0007	0.0176	0.1465**	0.0238	0.0261	0.1487**
Auditor Letter or Discussion	0.0925	0.0968	0.1672**	-0.0774	0.0764	0.1559**	0.1220
SEC Investigation	-0.0924	0.0664	0.0086	0.1320	0.0117	0.0164	0.2108***
Board/Audit Committee	0.0767	-0.0384	0.5524***	-0.0584	0.8610***	0.6495***	-0.0340
Top Three II Ranking	-0.1780**	-0.0380	-0.0733	-0.1001	-0.0638	-0.0791	0.0103
Calls Before	0.2303***	-0.0171	0.0189	-0.0402	0.0304	0.0262	0.1112
Call After	-0.0322	-0.0732	0.0698	0.0603	0.0202	0.0705	-0.0124
Pervasiveness	-0.0572	-0.0125	-0.0815	-0.1091	0.0220	-0.0707	-0.7741***
Size		-0.0938	0.2118***	-0.0303	0.0760	0.1967***	0.0768
Leverage			0.0710	0.0707	-0.1066	0.0545	0.0856
Earnings Change				-0.0594	0.5780***	0.9858***	0.1133
CAR					0.0467	-0.0487	0.1092
Lev-Change in Earnings Interaction						0.6954***	-0.0223
Size-Change in Earnings Interaction							0.0971
Core Earnings							

Note: The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 levels. See Appendix I for full list of variable definitions.

Table 6 provides a summary of the abnormal returns and CAR over the five-day event window (-2 to +2), with day 0 being the restatement announcement date. Panel A displays the daily event window market model abnormal returns using the value-weighted index as calculated by Eventus. The mean abnormal returns are negative for four of the five days, providing support for restatements being considered negative events during the time immediately surrounding restatement announcements. The mean abnormal return on day 2 (-0.22%) is statistically significant at the 1% level. The number of negative abnormal returns exceeded positive returns on three of the five days (days -2, -1, and +2).

Table 6, Panel B, provides the cumulative five-day abnormal returns using the value-weighted index as calculated by Eventus. The mean CAR over the five days is -0.34%, which is statistically significant at the 10% level using the parametric Patell's Z-statistic (Eventus, 2007, p. 80). Table 6, Panel B, also reports the precision-weighted mean CAR (-0.44%). The precision-weighted CAR weights individual CARs by the variance of the abnormal returns from the estimation period with higher variance stocks contributing less to the mean CAR (Eventus, 2007, p. 82). The number of positive CARs (101) exceeds the number of negative CARs (98) over the five-day event window. These proportions are not significantly different from each other based on the Generalized Sign Z test (Eventus, 2007, p. 88). Consistent with prior restatement literature, the -0.34% mean CAR provides evidence of the negative impact on stock returns during the five-day period surrounding the restatement announcement date. As shown in the descriptive statistics, there is considerable variation in the individual CAR with values ranging from approximately -31% to 25%. Given the wide range of CAR and -0.34% marginally negative mean CAR, these values may suggest that IR could play a role in

explaining some of the variation in CAR over the five-day period for restating firms included in the sample.

Table 6. Summary of Cumulative Abnormal Returns (CARs) Over the Five-Day Event Window (-2,2).

Panel A: Daily Event Window Market Model Abnormal Returns Value Weighted Index

Day	*N*	Mean Abnormal Return	Positive: Negative	Patell Z	Generalized Sign Z
-2	199	-0.06%	92 :107	-1.267	-0.894
-1	199	-0.05%	90 :109	-0.855	-1.178
0	199	0.05%	111: 88	0.331	1.800**
1	199	-0.05%	102: 97	-0.534	0.524
2	199	-0.22%	85 :114	-2.659***	-1.887**

Panel B: 5-Day Cumulative Market Model Abnormal Returns Value Weighted Index

Day	*N*	Mean CAR	Precision Weighted CAR	Positive: Negative	Patell Z	Generalized Sign Z
(-2,+2)	199	-0.34%	-0.44%	101: 98	-1.407*	0.382

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 levels.

Regression Results and Discussion

Model Results

Table 7 presents the OLS regression results for IR activity during the pre-restatement period (*Calls Before*) presented in Hypothesis 1. Both the reduced form and full regression models are presented. Hypothesis 1 proposed that firms engaging in more IR activity during the 365 days before a restatement announcement would experience a less negative CAR during the period surrounding the restatement announcement. The full regression model has overall model significance at the 10% level with an F-statistic of 1.67. However, the individual coefficient for the independent variable of interest, *Calls Before*, is not statistically significant in either model. Thus, the results of this model do not provide support for Hypothesis 1.

The following robustness checks were conducted in addition to the full and reduced form models discussed above. First, the full model results are analyzed by industry, using the two-digit SIC code and did not yield any additional significant results or insights. Second, I analyze the sample based on the firms pre-announcement CAR during the -90 to -4-day window prior to the announcement date. The sample is split into two groups based on the median (high pre-announcement CAR and low pre-announcement CAR) to evaluate the significance of the independent variable, *Calls Before*, separately for firms with high versus low CAR during the pre-announcement period. The subsample results do not provide significant or meaningful results. Third, the restatements in the sample are evaluated based on their impact on cumulative change in net income to see if the results differ for firms with restatements that had no cumulative impact on net income 144/199 (72%), a positive impact on net income 16/199 (8%), or a negative impact on net income 39/199 (20%). The relationship between *Calls Before* and CAR surrounding the announcement was negative and significant at the 5% level for the subset of 16 restatements with a positive impact net income, opposite the hypothesized relationship. This result suggests that firms that conduct more calls in the 365 days before the restatement announcement experience a 2.22% lower CAR during the period surrounding the announcement. There are no significant findings for restatements with no impact or a negative impact on net income.

Table 7. Ordinary Least Squares Regression Results for Pre-Restatement Announcement Calls (Hypothesis 1). Dependent Variable CAR Over (-2, 2).

	Reduced Form Model	**Full Regression Model**
Calls Before	-0.0007	-0.0009
	(-0.5700)	(-0.6500)
Earnings Change		-0.5928
		(-0.2600)
Length		0.0007
		(0.2100)
Leverage		0.0203
		(0.7900)
Size		0.0023
		(0.6400)
Lev-Earnings Change Interaction		19.6833
		(2.9200)***
Size -Earnings Change Interaction		-1.3814
		(-1.4100)
Fraud		-0.0422
		(-0.9200)
Pervasiveness		-0.009
		(-0.6800)
Core Earnings		-0.0035
		(-0.4100)
Auditor Letter or Discussion		0.0043
		(0.7800)
SEC Investigation		-0.0128
		(-0.3200)
Board/Audit Committee		0.1313
		2.2800**
Intercept	0.0023	0.0619
	(0.2100)	(0.7900)
Model Statistics		
N	199	199
Adjusted R^2 (%)	-0.3450	4.2500
F-Statistic	0.3195	1.6764*

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 levels. See Appendix I for full list of variable definitions.

Table 8 presents the Ordinary least squares (OLS) regression results for investor perceived IR quality during the *pre-restatement period (Top* Three II ranking) presented in Hypothesis 2. Both the reduced form and full regression models are presented. Hypothesis 2 proposed that firms ranked in the top three for Best IR Program based on votes collected by Institutional Investor (II) Magazine would experience less negative (higher) CAR during the period surrounding the restatement announcement. The full regression model has overall

model significance at the 5% level with an F-statistic of 1.78. The direction of the parameter estimate for *Top Three II Ranking* supports Hypothesis 2, indicating that being ranked in the top three by II leads to a less negative (higher) CAR. However, the individual coefficient for the variable of interest, *Top Three II ranking*, was not statistically significant in the full or reduced form models. Additional notable findings *in the full* model include restatements that involved the firm's board of directors or audit committee lead to a 12.74% higher CAR. This relationship was significant at the 5% level. While the direction of the results is consistent with the hypothesized relationship, due to the lack of statistical significance, the results do not provide support for Hypothesis 2.

Additional robustness checks were completed to take into account the firm industry, CAR during the period immediately before the restatement announcement, and the restatements impact on net income. First, the full model results were analyzed by industry, using the two-digit SIC code and did not yield any additional significant results. Second, the sample was split into subgroups for high pre-announcement CAR and low pre-announcement CAR, to evaluate the significance of the independent variable, *Top Three II Ranking*, separately for firms with high versus low CAR during the pre-announcement period. The subsample results did not provide statisically signficant results. Third, the results were analyzed by the impact of the restatement on the cumulative change in net income. No significant results were found for firms whose restatements had no impact, a positive impact, or a negative impact on net income.

Table *8* presents the Ordinary least squares (OLS) regression results for investor perceived IR quality during the pre-restatement period (*Top Three II ranking*) presented in Hypothesis 2. Both the reduced form and full regression models are presented. Hypothesis 2

proposed that firms ranked in the top three for Best IR Program based on votes collected by Institutional Investor (II) Magazine would experience less negative (higher) CAR during the period surrounding the restatement announcement. The full regression model has overall model significance at the 5% level with an F-statistic of 1.78. The direction of the parameter estimate for *Top Three II Ranking* supports Hypothesis 2, indicating that being ranked in the top three by II leads to a less negative (higher) CAR. However, the individual coefficient for the variable of interest, *Top Three II ranking*, was not statistically significant in the full or reduced form models. Additional notable findings in the full model include restatements that involved the firm's board of directors or audit committee lead to a 12.74% higher CAR. This relationship was significant at the 5% level. While the direction of the results is consistent with the hypothesized relationship, due to the lack of statistical significance, the results do not provide support for Hypothesis 2.

Additional robustness checks were completed to take into account the firm industry, CAR during the period immediately before the restatement announcement, and the restatements impact on net income. First, the full model results were analyzed by industry, using the two-digit SIC code and did not yield any additional significant results. Second, the sample was split into subgroups for high pre-announcement CAR and low pre-announcement CAR, to evaluate the significance of the independent variable, *Top Three II Ranking*, separately for firms with high versus low CAR during the pre-announcement period. The subsample results did not provide statisically signficant results. Third, the results were analyzed by the impact of the restatement on the cumulative change in net income. No significant results were found for firms whose restatements had no impact, a positive impact, or a negative impact on net income.

Table 8. Ordinary Least Squares Regression Results for Top Three II Firms (Hypothesis 2). Dependent Variable CAR Over (-2, 2).

	Reduced Form Model	**Full Regression Model**
Top Three II Ranking	0.0075	0.0071
	(1.4100)	(1.3200)
Earnings Change		-0.8626
		(-0.3800)
Length		0.0006
		(0.2000)
Leverage		0.0182
		(0.7100)
Size		0.0011
		(0.3200)
Lev-Earnings Change Interaction		19.7921
		(2.9500)***
Size-Earnings Change Interaction		-1.4712
		(-1.5100)
Fraud		-0.0435
		(-0.9500)
Pervasiveness		-0.0072
		(-0.5600)
Core Earnings		-0.0043
		(0.5000)
Auditor Letter or Discussion		0.0046
		(0.8500)
SEC Investigation		-0.0099
		(-0.2500)
Board/Audit Committee		0.1274
		(2.2200)**
Intercept	0.0014	0.0671
	(0.2600)	(0.8600)
Model Statistics		
N	199	199
Adjusted R^2 (%)	0.4990	4.9230
F-Statistic	1.9927	1.7896**

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 levels. See Appendix I for full list of variable definitions.

Table 9 presents the Ordinary least squares (OLS) regression results for IR activity during the post-restatement period (*Call After*) from Hypothesis 3. Both the reduced form and full regression models are presented. Hypothesis 3 predicts that firms engaging in IR activity during the post-announcement period from the day of the announcement (0) through the two day period following the announcement (+2), would experience a less negative CAR during

the period surrounding the restatement announcement, suggesting a positive coefficient. The full regression model has overall model significance at the 10% level with an F-statistic of 1.67. However, the individual coefficient for the variable of interest, *Call After*, is negative though not statistically significant in the full or reduced form models. The results suggest that firms who conducted a call within two days of the announcement date experienced a slightly lower (more negative) CAR during the five day period surrounding the announcement. These results indicate the opposite relationship from what was hypothesized. Perhaps engaging in IR activity immediately following a restatement announcement by conducting a conference call does not provide protection or reduce the negative impact on stock performance following the restatement. Overall, the results of this analysis do not provide support for Hypothesis 3.

Additional robustness checks take into account industry, CAR during the period immediately before the restatement announcement, and the restatements impact on net income. First, the full model results are analyzed by industry, using the two-digit SIC code and do not yield any additional significant results. Second, the sample is split into two groups, high and low pre-announcement CAR. The results from the high pre-announcement CAR and low pre-announcement CAR subgroups for variable, *Call after*, are not statistically significant. Third, the results were analyzed by the impact of the restatement on the cumulative change in net income. Consistent with the results from Hypothesis 2, no significant results are found for firms whose restatements had no cumulative impact on net income, a positive impact on net income, or a negative impact on net income.

Table 9. Ordinary Least Squares Regression Results for Post-Restatement Announcement Call (Hypothesis 3). Dependent Variable CAR Over (-2, 2).

	Reduced Form Model	**Full Regression Model**
Call After	-0.0035	-0.0027
	(-0.8500)	(-0.6300)
Earnings Change		-0.8611
		(-0.3800)
Length		0.0008
		(0.2400)
Leverage		0.0214
		(0.8300)
Size		0.0020
		(0.5800)
Lev-Earnings Change Interaction		19.9454
		(2.9600)***
Size-Earnings Change Interaction		-1.4696
		(-1.5000)
Fraud		-0.0391
		(-0.8500)
Pervasiveness		-0.0088
		(-0.6900)
Core Earnings		-0.0031
		(-0.3600)
Auditor Letter or Discussion		0.0038
		(0.6900)
SEC Investigation		-0.0147
		(-0.3700)
Board/Audit Committee		0.1263
		(2.1700)**
Intercept		0.0533
		(0.6700)
Model Statistics		
N	199	199
Adjusted R^2 (%)	-0.1420	4.2400
F-Statistic	0.7192	1.6740*

The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01 levels. See Appendix I for full list of variable definitions.

Discussion

Prior literature shows that the benefits of engaging in IR include increased liquidity (Agarwal et al., 2008, 2016; Kirk & Vincent, 2014), lower cost of capital (Ly, 2010), higher stock prices (Agarwal et al., 2008), higher market value (Karolyi & Liao, 2017; Agarwal et al., 2016), and positive future operating performance (Jiao, 2011). Negative impacts on stock

performance following restatement announcements are also well established in the literature (Ettredge et al., 2013; Burks, 2011; Badertscher et al., 2011; Kravet & Shevlin, 2010; Palmrose et al., 2004; Hribar & Jenkins, 2004; Anderson & Yohn, 2002; Dechow et al., 1996). The impact of IR on stock performance in the context of restatements has yet to be researched. The purpose of this study was to evaluate the impact of IR activity and IR quality on CAR, during the period surrounding restatement announcements.

As discussed in my hypotheses, I anticipated finding significant positive relationships between 1) the number of conference calls conducted in the pre-announcement period, 2) *II Magazine* top three Best IR firm rankings during the pre-announcement period, and 3) conference calls conducted during the post-announcement period and the CAR during the period surrounding restatement announcements. Based on a limited sample of 199 S&P 500 firms, the results of my analysis did not find support for any of the hypothesized relationships. There could be a number of reasons for this. Simply having more information available through IR activity, such as the presence of conference calls, may not be meaningful enough to impact CAR in the wake of restatement announcements for this sample of restatements.

Evaluating a larger and more diverse group of firms beyond the S&P 500 may provide additional insights and support for the proposed relationships. In addition, the restatements in the sample consisted only of "little r" revision restatements, which tend to have a less material impact on a firm's financial position. For this study, there were not enough "big R" reissuance restatements from S&P 500 firms during the sample period to provide a meaningful analysis. However, a sample of "big R" reissuance restatements, which tend to be more material and communicate that investors should no longer rely on previously issued

financial statements (SEC, 2019), would likely provide more insights into the relationship between IR activity, IR quality, and CAR surrounding restatement announcements.

Future studies may consider using additional measures for both IR activity and investor perceived IR quality. The count or existence of conference call transcripts serves as only one potential proxy for IR activity. Simply capturing the count or existence of transcripts provides equal weight to each transcript regardless of the content of information shared or the duration of the call. Future studies may use textual analysis for a more detailed evaluation of the information shared during conference calls. The *Top 3 II Ranking* proxy for investor perceived IR quality was intended to measure the quality of a firm's IR program as perceived by buy-side analysts. It is important to note that the II data used for this measure only includes the perceptions of buy-side analysts. The perceptions of sell-side analysts were not included in this measure. It may be that the II rankings from the buy-side do not provide an adequate measure for investor perceived IR quality or that the votes from the Best IR poll instead measure a different construct than perceived IR quality.

Directions for Future Research

IR continues to be an area with many opportunities for future research (Agarwal et al., 2016; Kirk & Vincent, 2014). Future studies may investigate a broader range of companies beyond the S&P 500. Providing more diversity in firm size and variation in the amount of IR activity and the quality of IR programs may provide additional insights into the relationship between IR and CAR during the period surrounding restatement announcements. Evaluating a broader range of firm sizes, specifically smaller companies, may also provide additional insights since smaller companies have a higher likelihood of issuing restatements (Scholz, 2014). Future studies may also evaluate whether firms use IR as a form of insurance to help

protect against the negative impacts of future bad news announcements. Do firms engage in more IR to soften the blow of future bad news, or do firms use IR to help recover after bad news is released? Investigating whether restating firms engage in more IR activity compared to non-restating firms may also provide helpful insights into how firms use IR.

Future studies may also investigate the relative importance of restatement disclosure methods ("little r" revisions versus "big R" reissuances). In 2014, the Center for Audit Quality released a report of restatement trends in the United States from 2003 through 2012. The report found that 35% of restatements announced in 2012 were reissuance restatements, compared to 61% in 2005 and 53% in 2006 (Scholz, 2014). During this period, firms gained more discretion on how to classify restatements as revisions or reissuances (Hogan & Jonas, 2016). Classifying more restatements as revisions may reduce transparency for investors and other stakeholders, even if the impact of the restatements is material. Future studies may evaluate the impact of IR activity on CAR for a broader set of revision restatements and assess changes over time. IR may have more impact on investor reaction to revision restatements now than in the past due to the increased discretion available to firms in how restatements are disclosed.

Conclusions

IR continues to serve an important purpose and provide many avenues for future research. Additional research is needed in the area of IR in the context of restatements. Prior research shows that in the wake of a restatement, investors question information provided by management and have concerns regarding financial statement reporting quality (Badertscher et al., 2011; Palmrose et al., 2004; Hribar & Jenkins, 2004; Ettredge et al., 2013). While IR may be useful to help investors stay informed, simply providing more information may not

be enough to mitigate the negative impact on stock returns following restatement announcements. Perhaps simply providing more information through various IR activities does not insulate large firms from the negative impacts on stock performance following restatements. Or perhaps the IR activity is associated with stock performance outside the immediate window surrounding a restatement announcement. While this study provides limited insights into the relationship between IR and CAR for restating S&P 500 firms, many opportunities for future research exist.

Study Limitations

First, the sample size of 199 provides an inherent limitation since it only accounts for a small sample of the population of firms who issue restatements. Second, the sample was restricted to only the S&P 500 firms, which does not include small or medium-sized U.S. companies. Third, due to data availability for S&P 500 firms during the sample period, only revision ("little r") restatements were included in the analysis. Prior research shows reissuance, or "big R" restatements, generally have a significantly more negative impact on CARs for firms in the wake of restatement announcements (Scholz, 2014; Sievers & Sofilkanitsch, 2018). Each of these constraints on the sample size reduces the generalizability of the results. Fourth, this study only evaluated whether a conference call took place on the day of the announcement or within two days after the announcement. It may be helpful to evaluate IR activity over a longer period of time after a restatement is announced to gain additional insights into the impact of IR activity. Finally, alternative measures may be available to capture the IR quality and IR activity independent variables. For example, the *Institutional Investor Magazine* data was intended to capture investors' perceptions of the quality of a firm's IR program before a restatement announcement, but the votes likely do not

fully capture investors' perceptions of IR quality. Additional factors, in addition to quality, likely influence the votes received for IIs Best IR program rankings.

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APPENDIX I

VARIABLE DEFINITIONS

Dependent Variable	
Cumulative Abnormal Returns **(**CAR*)*	The sum of daily abnormal stock returns over the restatement announcement window (day – 2 to day +2) calculated by subtracting the CRSP value weighted index from the daily individual stock returns.
Independent Variables	
Calls Before	Quantifies the amount of IR activity that occurred during the 365-day period before the restatement announcement date using a count of transcripts from the Capital IQ database. Calls before is measured using the count of transcripts for conference presentations, earnings calls, M&A calls, Analyst/Investor Days, Shareholder/Analyst calls, and Guidance/Update calls during the 365 days before the restatement announcement.
Top Three II Ranking	Indicator variable used to assess investor perceived IR quality. Top Three II Ranking is based on buy-side analysts votes in the "Best Investor Relations Program" by Institutional Investor (II) Magazine. Firms ranked in the top three within their industry by buy-side analysts are considered to have higher investor perceived IR quality compared to firms not ranked within the top three in their industry. 0 = the restating firm was included in the Top Three II Ranking 1 = the restating firm was not included in the Top Three II Ranking.

Call After	Indicator variable used to identify the existence of at least one conference call in the Capital IQ database during the post-restatement announcement period. The post-announcement period extends from the day of the restatement announcement through the two-day period after the announcement. IR activity is measured as the number of transcripts for conference presentations, earnings calls, M&A calls, Analyst/Investor Days, Shareholder/Analyst calls, and Guidance/Update calls from the day of the restatement announcement through the two days after the announcement. 0 = one or more calls occurred during the post-announcement period 1 = a call did not occur during the post-announcement period.
Control Variables	
Fraud	Indicator variable used to identify if the restatement involved fraudulent activity (Audit Analytics, 2020). 0 = restatement involved fraud 1 = restatement did not involve fraud.
Auditor Letter or Discussion	Indicates disclosure of the auditor's knowledge or involvement in the restatement (Audit Analytics, 2020). 0 = auditor involvement 1 = no known auditor involvement.
SEC Investigation	Indicates SEC involvement in the restatement process including an SEC comment letter that triggered the restatement; or formal or informal SEC inquiry into the circumstances surrounding the restatement (Audit Analytics, 2020). 0 = SEC involvement 1 = no SEC involvement.
Board/Audit Committee	Indicates disclosure of Board of Directors and/or Audit Committee's knowledge or involvement of the restatement (Audit Analytics, 2020). 0 = BOD/Audit Committee knew about the restatement 1 = BOD/Audit Committee did not know about the restatement.
Core Earnings	Indicates if the restatement impacted the firms core earnings. 0 = restatement impacted the firms core earnings 1 = restatement did not impact the firms core earnings.
Earnings Change	Calculated by dividing the amount of the earnings restatement by the total assets at the end of the prior period.
Pervasiveness	The number of account groups involved in the restatement. The five account groups include revenue, cost of sales, operating expenses, merger-related, and other.
Length	The total number of time periods included in the restatement measured as 0.25 per quarter or 1.0 per year.
Leverage	Book value of long-term debt divided by the book value of total assets as of yearend prior to the restatement announcement.
Size	Natural log of the book value of total assets at the fiscal year end prior to the restatement announcement.
Lev - Change in Earnings Interaction	Interaction variable between *Leverage* and *Earnings Change*.
Size - Change in Earnings Interaction	Interaction variable between *Size* and *Earnings Change.*

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