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UNDERSTANDING THE DIRECTION, MAGNITUDE, AND JOINT EFFECTS OF REPUTATION WHEN MULTIPLE ACTORS' REPUTATIONS COLLIDE

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Despite extensive research efforts into the effects of reputation, virtually all of it has examined the effect of one type of reputation on one or more specific outcomes. But, how, for example, might the reputations of analysts, CEOs, and firms individually and jointly affect firm outcomes? To answer this question, the present study focuses on a context in which reputations are particularly relevant: changes in analyst recommendations and the effect of those changes on stock market reactions. Our study contributes to the increasing reputation literature by being one of the first to recognize and measure how the market accounts for multiple reputations. Further, we argue and find that the reputations of different actors interact with each other when determining particular firm outcomes. We also find that different actor's reputations influence the reactions of observers.

Over the past 20 years, there has been substantial growth in research regarding how various forms of social evaluations affect organizations. One of the most active areas in this stream of research focuses on one particular type of social evaluation: reputation (Lange, Lee, & Dai, 2011). We define reputation as a collective social judgment regarding the quality or capabilities of a focal actor within a specific domain, which is consistent with recent literature on the topic (Jensen, Kim, & Kim, 2012; Lange et al., 2011).[1] This research suggests that an actor's reputation influences numerous outcomes, including an organization's performance (e.g., Deephouse, 2000; Rindova, Williamson, Petkova, & Sever, 2005) and executive compensation (e.g., Milbourn, 2003; Wade, Porac, Pollock, & Graffin, 2006). Given the inherent uncertainty of assessing the quality of individuals or organizations, reputations are influential because they represent a collective judgment. For instance, Holmstrom (1982) noted that firm performance is not only influenced by executives' decisions and resource allocations, but also by numerous industry and environmental factors that are beyond any individual executive's or firm's control. Due to this uncertainty, an actor's reputation may be an important means by which their perceived quality is informed.

Reputational research tends to focus on the reputation of one focal actor and how it affects outcomes important to this actor. For example, research has examined the link between an organization's reputation and positive outcomes such as an organization's ability to charge premium prices (Rao & Monroe, 1996; Rindova et al., 2005), firm performance (Deephouse, 2000; Roberts & Dowling, 2002), firm survival (Rao, 1994), job applicant quality (Turban & Cable, 2003), and more. Similarly, research has examined the benefits of a strong

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[1] While we recognize that there are other related constructs, such as status or prestige, that are conceptually similar to reputation, reputation is the focus of our study. A number of recent articles have undertaken to clarify distinctions among these constructs (e.g., Bitektine, 2011; Deephouse & Carter, 2005; Deephouse & Suchman, 2008; Lange et al., 2011; Washington & Zajac, 2005), but this is beyond the scope of the present paper. Thus, we focus only on reputation and use a definition of reputation from a recent review of this literature.

reputation for an executive, including increased compensation (Milbourn, 2003; Wade et al., 2006), promotion opportunities (Graffin, Wade, Porac, & McNamee, 2008), and increased firm performance (Johnson, Ellstrand, Dalton, & Dalton, 2005; Koh, 2010; Wade et al., 2006).

While this single actor-centric approach has helped us begin to understand the effects of reputation across a wide variety of settings and outcomes, it does not consider the fact that, in many settings, there are multiple reputations that may affect a given outcome. For instance, when buying a car, an individual may consider the reputation of the company that manufactured the car, the reputation of the dealer selling the car, the rating of the car by a third party, and even the reputation of the third party providing this rating. Given the numerous outcomes that reputation affects, it is important to consider how the reputation of multiple actors might simultaneously and/or jointly influence an outcome. This is especially true in situations when the attributes on which the reputations are built overlap and both are relevant to a given audience. Despite the intuitive nature of this idea, academic research has largely ignored how reputations of multiple actors may impact a given outcome. One notable exception is a recent study by Castelluicci and Ertug (2010), in which they found that an exchange between a high- and a low-status actor resulted in the lower-status actor putting more effort into the relationship.

To begin to address the puzzle of how the reputations of multiple actors may individually and jointly influence a given outcome, we focus on a context in which multiple reputations are particularly relevant—stock market reaction to changes in analyst recommendations—and we examine the effects of analysts, CEOs, and firm reputation on those reactions. Research suggests that analysts (Groysberg & Lee, 2010; Groysberg, Nanda, & Nohria, 2004), CEOs (e.g., Graffin et al., 2008; Wade et al., 2006), and firms (e.g., Deephouse, 2000; Roberts & Dowling, 2002) can each achieve a favorable reputation. We develop our research question around the reputation of these star analysts, star CEOs, and high-reputation firms, and ask: *How do the reputations of analysts, CEOs, and firms individually and jointly affect how shareholders react to changes in analysts' recommendations*? We suggest that the reputations of analysts, CEOs, and firms jointly influence how shareholders react to changes in analyst recommendations of the firms they cover. These separate, but overlapping, reputations are each influential because the audience in this context (e.g., the market) should be influenced by the reputation of each actor.

Our study makes a number of theoretical contributions. First, we develop a theoretical framework about the content of a given actor's reputation that guides our hypotheses examining the direction and magnitude of multiple actors' reputation in a given context. Specifically, we argue that the attribute upon which the reputation is built and the expectations of a particular audience determine that reputation's influence on a given outcome. This theoretical framework allows us to make predictions regarding how the market accounts for the reputation of multiple actors within a given context. Prior research has generally failed to recognize and capture multiple reputations within a single context. We argue and find that shareholders account for multiple reputations simultaneously and that each reputation distinctly influences firm outcomes. Thus, despite extensive reputational research, our findings suggest there is still much theorizing and testing that still needs to occur in order to understand how multiple reputations affect a given outcome.

Second, based upon our theoretical framework, we argue and find that the impact of a given reputation does not occur in a vacuum, but, rather, that the reputations of different actors interact to influence firm outcomes. Specifically, we predict that, of the three types of reputation considered, two will have interactive effects, and that analyst reputation will have a dominating effect on CEO reputation. Practically, we find that analyst reputation reduces the effect of CEO reputation on market reactions to upgrades and downgrades. This finding is noteworthy because it suggests the need for additional theorizing regarding when and how a given reputation may matter more or less.

Third, our research contributes to the growing literatures on analyst, executive, and firm reputation. First, we show that firm reputation, while influential in many contexts, is not as influential when market actors interpret stock upgrades and downgrades as other, more specific reputations. Further, we argue and find that executive reputation has a significant effect on the market reaction to downgrades by nonstar analysts. Finally, we find that star analysts' reputation is more powerful when it comes to how the market reacts to downgrades, even when star analysts are downgrading firms run by star CEOs. These findings indicate that, to truly understand the effects of firm, CEO, or analyst reputation, we need to simultaneously consider their effect on a given outcome. Given our theory and findings, these efforts by

executives may be seen as especially critical given the large influence analysts reputation have in some contexts.

THEORY AND HYPOTHESES

Research on Reputation

Research suggests that an actor's reputation impacts a number of outcomes. An organization's reputation has been positively associated with return on assets (ROA) (Deephouse, 2000; Roberts & Dowling, 2002), its survival (Rao, 1994), its ability to charge premium prices (Rindova et al., 2005; Standifird, 2001), and the starting salary of a business school's graduates (Boyd, Bergh, & Ketchen, Jr., 2010). Other studies have found that an organization's reputation positively impacts the number and quality of job applicants it attracts (Turban & Cable, 2003), the attention it receives for a product recall (Rhee & Haunschild, 2006), the likelihood of engaging in illegal activity when it performs above its aspiration level (Mishina, Dykes, Block, & Pollock, 2010), and its ability to deviate from strategic behavior without a reputational penalty (Deephouse & Carter, 2005; Phillips & Zuckerman, 2001).

Another area that has received attention is the reputation of a firm's top executives (see Graffin, Pfarrer, & Hill, 2012, for a review of the CEO reputation literature), with research on executive reputation suggesting a number of positive outcomes for executives and their employers. Specifically, executive reputation has been positively associated with executive compensation (Graffin et al., 2008; Wade et al., 2006), executive pay-for-performance sensitivities (Graffin et al., 2008; Milbourn, 2003; Wade et al., 2006), executive promotional opportunities (Graffin et al., 2008), and the short-term stock performance of his/her employer (Johnson et al., 2005; Wade et al., 2006) as well as annual firm performance (Koh, 2010).

Although still nascent, there has been analogous research examining the effects of investment analysts' reputation. This area of research theorizes that star analysts are associated with speedier and more complete market reactions than those of their less-reputed counterparts (Gleason & Lee, 2003), better risk-adjusted returns for buy and sell recommendations than those from non-stars (Fang & Yasuda, 2009), more negative rating changes (Hayward & Boeker, 1998), and an increased organizational willingness to underprice its initial public offerings (IPOs) when star analysts are associated with the lead underwriter providing coverage post-IPO (Liu & Ritter, 2011). There is also research linking being a star analyst with career benefits such as higher compensation (Groysberg, Healy, & Maber, 2011) and increased colleague quality (Groysberg & Lee, 2010).

In sum, research has established that analyst reputation, CEO reputation, and firm reputation are each influential. What is not well understood, however, is the influence of these different reputations when they are each relevant to a single audience. This oversight is striking, given the fact that, in many instances, there are multiple actors whose reputations may influence a given outcome. For instance, in an acquisition, the acquiring firm, the acquired firm, and the CEO of each firm will each have reputations that may influence the market's perception of the transaction (Buchholtz, Ribbens, & Houle, 2003; Hayward, 2002; Nadolska & Barkema, 2014). Consequently, we have developed a theoretical framework that helps organize and provide a better understanding of the influence and relative importance of various actors' reputations to a given audience.

The Direction and Importance of an Actor's Reputation to a Given Audience

Reputations develop based on aggregated information and give observers a means by which to classify the organization. Lange et al. (2011) argued that organizational reputation is informed by observer's familiarity with the firm, the beliefs about what to expect from the firm in the future, and a generalized impression of favorability. The importance of a reputation may vary across audiences, however (Jensen, Kim, & Kim, 2012). Indeed, recent work on the topic argues that a given reputation is both attribute specific and audience specific (Jensen et al., 2012). For instance, Wal-Mart's reputation regarding the attribute of low prices will have little influence on how labor groups evaluate the firm in terms of how it treats its employees. To help make better sense of such cases, we argue that the impact of a reputation to a given audience will depend on the attributes upon which that reputation is built and the expectations of the audience that is making the evaluation (Jensen et al., 2012).

An actor's reputation can vary from being based on attributes that are highly specific to attributes that are quite broad. Attribute-specific reputations are based on "being known for something" (Rindova et al., 2005: 1035) and meeting the expectations of

a specific audience (e.g., Lange et al., 2011; Love & Kraatz, 2009). The example of a professor's reputation for research is an example of a type of reputation that is quite specific, as an academic gets a reputation for performance along a specific attribute (e.g., research productivity) that has well-established parameters for success (e.g., microbiology). Other types of reputation, however, may be based on less specific attributes and result in general feelings of favorability (Lange et al., 2011) that are not be based on specific criteria, and may, instead, be based on an actor's "overall appeal to its key constituents" (Fombrun, 1996: 72) that is generally shared across multiple audiences (Fombrun, 2012; Rindova & Martins, 2012). Accordingly, when considering if a given actor's reputation will be influential, one needs to consider if that reputation was formed based on specific attributes or a general impression of favorability. Although general reputations may have influence across multiple audiences, we suggest that, for a given audience, a reputation based on specific attributes or dimensions will be more influential than a more general reputation.

A second dimension upon which the influence of a given reputation may vary is how well the reputation matches the expectations of a given audience (Jensen et al., 2012). Some reputations are based on attributes that match the expectations of a given audience, while others are based on attributes that are not related to the audience's expectations. Indeed, a firm's reputation for meeting its earnings targets may be quite relevant to shareholders, but may mean little to environmental groups. Conversely, a firm's reputation for manufacturing quality products is quite relevant to consumers when it adds a new product line. It follows that, when considering if a reputation will be influential to a given audience, we need to consider the degree to which the attributes of the reputation are important to the particular audience's expectations.

Direction and Relative Magnitude of Actor Reputation on the Market Reaction to a Recommendation Change

We now consider how the attribute specificity and audience relevance of each type of reputation will influence the direction and the magnitude of the impact of a given reputation on a specific outcome. Investment analysts act as market intermediaries (Wiersema & Zhang, 2011; Zavyalova, Pfarrer, Reger, & Shapiro, 2012) who provide recommendations (i.e., buy, sell, hold) for the firms they cover. While analysts can attract clients by issuing accurate recommendations (Ljungqvist, Marston, & Wilhelm, 2006), their ratings are positively skewed as they tend not to rate firms negatively and instead favor neutral ratings. As such, even a one-point change (e.g., from strong buy to a buy) influences a firm's stock price (Womack, 1996).

We suggest that an analyst's reputation will amplify the stock market's reaction to a recommendation change for two reasons. First, markets will react more strongly to star analysts' recommendation changes because they are associated with more accurate forecasts (Groysberg et al., 2011) and they are more resistant to pressure to keep their recommendations unchanged (Hayward & Boeker, 1998). Thus, shareholders will likely view a change in their recommendations as more diagnostic of a firm's future prospects. Second, when star analysts make a change, it will be more likely to be noticed by the market as a meaningful indicator of a firm's future prospects, as research suggests that high-reputation actors receive more attention for comparable actions (Adut, 2008; Bonner, Hugon, & Walther, 2007).

Further, analyst reputation is based on specific attributes and is highly related to the audience's expectations (e.g., stock investors), so we expect that the magnifying effect of analyst reputation will also have an effect of a large magnitude. When investors are considering whether to trust an analyst's change in recommendation, his/her reputation will likely have a large impact because that reputation is built upon forecast accuracy (Hong, Kubik, & Solomon, 2000; Stickel, 1992). Further, analysts' recommendations are specifically targeted to investors; they are even directionally labeled "buy," "sell," or "hold." As such, we suggest that, because analyst reputation is specific to the accuracy of their forecasts and is directly related to our context of firm stock performance, it should have a large effect on market reactions to a recommendation change.

We also suggest that the reputation of a firm's CEO will influence how shareholders interpret recommendation changes, as research finds that shareholders respond positively when a firm's CEO wins a "CEO of the year" contest (Wade et al., 2006). This suggests that shareholders view CEO reputation as an indicator of CEO competence. Second, star CEOs' firms build their reputation on sustained high-performance levels (Wade et al., 2006). Thus, shareholders may discount a single piece of negative information that is inconsistent with this trend. Similarly, we suggest that the increased expectations for future performance will cause shareholders to

react less positively to upgrades by analysts because their expectations that star CEOs will continue to deliver high levels of performance are already reflected in the firm's value (e.g., Wade et al., 2006). We generally expect CEO reputation will reduce the size of both upgrades and downgrades on the firms' cumulative abnormal returns (CARs).

When considering the magnitude of the effect of CEO reputation, however, we suggest it should be less influential than analyst reputation, because it is based on less specific attributes and is not as directly related to the expectations of the audience in question—shareholders—as analyst reputation. As Graffin et al. (2012) noted in their review of this literature, firm performance is the most common and necessary antecedent to a CEO developing a strong reputation. At the same time, however, research also suggests that a CEO's quality is only loosely coupled with firm performance (Bok, 1993; March, 1984), and, when CEOs win CEO-of-the-year awards, these contests consider multiple factors beyond firm market performance, such as the morale of the firm's employees along with the executive's impact on the community or world.[2] So, unlike analyst reputation, which is based upon the very specific attribute of forecast accuracy, CEO reputation is based upon a number of diverse attributes. While investors may have specific expectations about some of those attributes (such as employee morale, firm impact, etc.), their primary concern is the firm's market performance. We thus suggest that CEO reputation will have a weaker impact than analyst reputation on the market reaction to recommendation changes.

Finally, we turn to the effect of firm reputation. As with CEO reputation, we expect firm reputation to reduce the effect of a downgrade, as positive reputation brings with it positive expectations for future firm performance (Deephouse, 2000; Fombrun, 1996), and high reputation firms may face less severe penalties when negative information comes to light (Doh, Howton, Howton, & Siegel, 2010; Love & Kraatz, 2009; Pfarrer et al., 2010). For instance, Pfarrer et al. (2010) found that negative earnings surprises led to less negative market reactions for high-reputation firms, while Love and Kraatz (2009) concluded that high-reputation firms experienced smaller reputational losses than low-reputation firms following earnings restatements. Similar to the effect of CEO reputation on the market reaction to an upgrade, we also theorize that firm reputation will reduce the overall positive effect of an upgrade, because high-reputations firms already have an upward bias in their stock price and the additional information associated with an upgrade is therefore less important.

Although we expect the firm's reputation to have a similar directional effect as CEO reputation, we believe its magnitude will be smaller. We suggest that firm reputation is the least attribute specific and also the least related to expectations of stock investors of the three actor reputations being considered in the present study. First, firm reputation is most commonly measured using "most admired" lists (e.g., Pfarrer et al., 2010), and so it encompasses a broad array of factors. Indeed, firms are admired for many reasons, including but not limited to how they treat employees, their overall product quality, the particular industry in which they compete, and even their environmental policies. These criteria are broad and are based on less specific attributes than for either CEO or analyst reputation. Although some research suggests that firm performance is the primary attribute that affects firm reputation (Fryxell & Wang, 1994), it is clear that the other attributes listed are influential too. Further, the attributes upon which firm reputation is based are also less aligned with the expectations of investors than either CEO or analyst reputation. Firm reputation is based on a number of factors that have very little to do with a company's stock performance, and should therefore be less relevant to investors when making changes to their buy/sell recommendation for a firm's stock price.

In sum, we theorize that all three types of reputation should impact the size of the market reaction to downgrades and upgrades. We expect analyst reputation to have an amplifying effect, and CEO and firm reputations to have a diminishing effect. Further, because analyst reputation is based on the most specific factors and is most related to the context of a firm's stock price, we suggest it will have the strongest impact in this setting. Thus, we make the following hypotheses about the direction and magnitude of these three types of reputation:

Hypothesis 1. Analyst reputation will amplify the size of the CAR that is associated with a downgrade or an upgrade.

[2] This language is taken from the criteria the magazine *Financial World* used to select winners in its CEO of the Year contests. A complete list of these criteria is listed in Wade et al. (2006: 648).

Hypothesis 2. CEO reputation will diminish the size of the CAR that is associated with a downgrade or an upgrade.

Hypothesis 3. Firm reputation will diminish the size of the CAR that is associated with a downgrade or an upgrade.

Hypothesis 4. Analyst reputation will be more influential than CEO reputation, which will be more influential than firm reputation on CARs associated with a downgrade or an upgrade.

The Joint Effects of CEO and Analyst Reputation

We now turn to the issue of how these reputations may jointly influence the stock market's reaction to upgrades and downgrades. Because there is little research exploring the interactive effects of the reputations of multiple actors on a given outcome, we leverage the theoretical framework developed above to guide our hypotheses.

First, it is important to establish whether we would expect the reputation of multiple actors to jointly influence one another in this context. A reputation effect occurs because it is perceived to be a shared evaluation of a particular actor and consequently more reliable than a single indicator of performance (Fombrun, 1996). In our context—stock market reactions to changes in analyst recommendations—we suggest that CEO reputation and analyst reputation are each relevant to a firm's stock price. As discussed above, analyst recommendations are based upon their specific ratings and followings of firms, and these reputations are extremely relevant in this context. Analyst recommendations are intended to help resolve the uncertainty present in financial markets regarding the future performance of firms (Hilary & Hsu, 2013). Similarly, as noted above, CEO reputation, while less specific and related than analyst reputation, is still valuable because it is perceived to reduce uncertainty about the firm's future prospects (Wade et al., 2006). Consequently, as our corresponding hypotheses suggest, both forms of reputation should influence how shareholders make sense of changes to analysts' recommendations. At the same time, however, we only develop hypotheses related to the joint effects of analyst and CEO reputation because we do not expect firm reputation to have a large impact on this particular audience, due to the fact it is less specific and less directly relevant to them.

Downgrades. When considering the joint effects of analyst and CEO reputation on the market reaction to a downgrade, we explore the direction and magnitude of the individual effects to guide our prediction regarding the joint effects. As we argued above, analyst reputation should have the greatest impact on investor reactions to downgrades, due to its specificity and relatedness to the outcome of a firm's stock price. At the same time, however, the reputation of the firm's CEO will be an important source of information for shareholders as they make sense of analysts' recommendations. In the case of a non-star analyst issuing a downgrade of a firm run by a non-star CEO, investors will have to seek other sources of information to inform their reactions. When a non-star analyst issues a downgrade, shareholders will likely interpret the downgrade of a firm run by a non-star CEO differently than they would if this same analyst downgraded a firm employing a star CEO. Indeed, as a star CEO's reputation is partially built through their firm's performance (Wade et al., 2006), a downgrade from a non-star analyst may be discounted, as that analyst is not known for providing accurate predictions, while a star CEO is known for delivering high levels of firm performance. Conversely, when a downgrade is issued by a star analyst, the reputation of the analyst will be extremely influential. When an investor is making a decision about which piece of collective information to believe, the specificity and relatedness of analyst reputation should be influential, and should overrule or outweigh the positive assessments generated by the CEO's reputation. Specifically, because analyst reputation is more specific and more directly related to a firm's stock prices, investors will give more weight to analyst reputation than to the CEO's reputation. In other words, when a star analyst downgrades a firm that is run by a star CEO, investors and shareholders will try to determine which information is most relevant. They will consider whether to give more weight to the most recent information (the downgrade) or to the CEO's reputation (which is based on expected future performance). This is further complicated by the fact that the analyst issuing the downgrade also has a reputation. In essence, investors are trying to gauge which piece of information is the signal and which is the noise. Because an analyst's reputation is built upon accurately making changes based on changes in the firm's prospect, downgrades by star analysts will be seen as having more direct relevance, when compared with CEO reputation. Thus, we predict:

Hypothesis 5a. Analyst reputation will moderate the effect of CEO reputation on the CAR of

the firm following a downgrade such that analyst reputation will reduce the positive impact of a CEO's reputation on the firm's stock market reaction.

Upgrades. We expect similar effects when considering the joint effects of CEO and analyst reputation on the market's reaction to an upgrade. Once again, we suggest that, when a non-star analyst issues an upgrade for a non-star CEO, investors will have to seek other sources of information, due to neither actor having a strong reputation to inform the market's interpretation of this change. CEOs gain their reputation and win awards after periods of sustained high performance. Because firms led by high-reputation CEOs already have positive expectations built into their valuations, the market expects more from firms run by star CEOs, so an upgrade should have a smaller effect because the stock price of the firm already has a positive shareholder bias. When the upgrade is issued by a star analyst, however, shareholders will be forced to reconcile these disparate pieces of information. In the presence of the positive bias of CEO reputation, they will have to consider how to interpret the star-analyst upgrade. As with downgrades, we expect that actors will view star-analyst upgrades as containing more important information, because star analysts' reputations are built upon their accuracy for this audience. In essence, an upgrade by a star analyst should reduce or eliminate the buffering effect CEO reputation has on upgrades, due to the analyst's reputation being more specific and directly related to the upgrade than the CEO's reputation. Consequently, we predict:

Hypothesis 5b. Analyst reputation will moderate the effect of CEO reputation on the CAR of the firm following an upgrade such that analyst reputation will reduce the negative impact of a CEO's reputation on the firm's stock market reaction.

SAMPLE AND METHODS

Sample

The sample for this paper was the entire Institutional Brokerage Estimate System (IBES) recommendation file from 1996 to 2008. We used the recommendation detail file, which lists the name of analysts who issue reports, the date they issued the reports, and the general content (buy, sell, hold, etc.) of their recommendations. Analysts issue calls on a stock, which is recorded in IBES. The analyst must then reaffirm that call every 180 days for IBES to retain it as active. Consequently, analysts must monitor and evaluate their recommendations regularly.[3]

Firm and industry data came from Compustat, stock price and CAR information came from the Center for Research in Security Prices's Eventus, CEO data came from ExecuComp, and directors' information came from RiskMetrics. To reduce cross-coding of date-specific data, we only used firms with a fiscal year ending in December (Graffin et al., 2008).

The empirical context for our study is the day an analyst changed his or her purchase recommendation. Analyst recommendations were scaled 1 to 5, with "1" being a "*strong buy*," "5" a "*strong sell*," and "3" a "*hold*." As mentioned above, these recommendations exhibit a positive bias, with the average rating in our sample being 2.4, a "*buy*" recommendation. There were very few ratings (8%) below the mid-point (e.g., a "*sell*" or "*strong sell*" rating), and analysts have been noted to drop coverage of a stock entirely rather than issue a sell rating (McNichols & O'Brien, 1997). We labelled any lowering of a rating as a "downgrade," and any positive change as an "upgrade." We observed the date the rating change was issued, and used that to observe the equity market reaction to the rating change.

Dependent Variable

We measure the stock market's reaction to these ratings changes using the abnormal returns to a firm's stock on the day of a downgrade/upgrade using the market model. This measure captures the CAR on a [0,1] window surrounding the event. "Cumulative abnormal returns"—the amount a stock moved within a particular window that is abnormal relative to other equities in the market—are a common measure for stock performance, and have been used in prior reputation research (e.g., Wade et al., 2006).

Independent Variables

For analysts, the most significant award they can receive is to be named on the "All-American"

[3] Importantly, in October 2012, IBES stopped releasing the individual recommendations for several prominent banks, including Merrill Lynch and Lehman Brothers throughout their entire historical database, within our sample period. In order to avoid a sample that might be biased by the lack of analysts from these two major firms, we constructed our sample from two independent samples that had been collected from IBES before these changes and which consequently included these banks as part of their sample.

analyst team (Stickel, 1992), annually published by *Institutional Investor* magazine. Since 1972, the magazine has conducted an annual worldwide survey of money managers at large investment and hedge funds, asking them to rate each analyst. The analyst with the highest score is placed on a "first team" within his/her industry. There are also awards for second/third and fourth place in the ratings. In an average year, 17% of the analysts in our sample were recognized; typically, between 300 and 400 analysts out of a sample of more than 3,000. *Star analyst* is an indicator variable that takes the value of "1" if the analyst appears in any of the various teams listed by *Institutional Investor* that year (Stickel, 1992).

Following Pfarrer, Pollock, and Rindova (2010), we operationalized firm reputation using the rankings of *Fortune* magazine's "Most Admired Companies" and the *Wall Street Journal*/*Harris Interactive* list of "Corporate Reputation." Also consistent with Pfarrer and colleagues (2010), we operationalized *corporate reputation* as a dichotomous variable taking the value of "1" if the firm appeared on either of these lists in the year prior to the ratings change.

Star CEOs are frequently covered by major, popular business publications, and the associated awards are commonly used to assess CEO reputation (Graffin et al., 2008; Wade et al., 2006). Our measure of CEO reputation (*Star CEO*) was a count of the number of times that a CEO had won awards from *Forbes*, *BusinessWeek*, *Chief Executive Management*, *Industry Week*, *Institutional Investor*, or *Worth* magazine over the prior five years. We captured our measures starting in 1991 so that every year in our sample had five years of preceding information.

Control Variables

This dataset models the individual CEO by individual analyst dyad. We controlled for analyst-specific, firm-specific, and management-specific factors, as well as including industry dummies based on global industry-classification-system sector (Wowak, Hambrick, & Henderson, 2011), the year, and the fiscal quarter. At the analyst level, we controlled for the analyst's *experience in total* as the average number of years since each covering analyst issued their first recommendation in IBES (Clement & Tse, 2005), and his or her *experience with this stock* as the average number of years that the analyst had been covering this stock.

We also controlled for the *analyst's job demands*, by measuring the number of firms that the analyst was covering that year. This does not require that they issued a recommendation on the firms that year, only that they had an outstanding call on the firm. We also included a dummy variable for whether the focal rating change was *within three days of an earnings announcement* (quarterly or yearly), as this might change the interpretation of the rating change. Additionally, we controlled for the number of *recent downgrades/upgrades* issued on a firm by any analyst, as a count of recommendations issued within the 14 days preceding the focal downgrade/upgrade, as this might lead to a disproportionate effect on investors and raise the tendency for other analysts to change their ratings (Hilary & Hsu, 2013).

Lastly, we controlled for the absolute size of the analyst's rating change. Because the highest recommendation an analyst can issue is a "strong buy," coded as "1," and the lowest is coded as "5," the size of the analyst change in recommendation is meaningful. *Size of revision* is therefore the number of slots that the analyst downgraded/upgraded the firm, bounded between 1 and 4.

At the firm level, we controlled for *firm size* as the log of firm revenue in the quarter (Graffin et al., 2008). We also controlled for related and unrelated diversification, measured as the firm's entropy scores (Robins & Wiersema, 2003), because analysts can be less accurate when a firm is highly diversified (Litov, Moreton, & Zenger, 2012). We controlled for the *percent of institutional ownership* because this can have an important effect on the independence of equity analysts (Ljungqvist, Marston, Starks, Wei, & Yan, 2007). We also controlled for *firm performance*, using the ratio of the firm's net income to total assets over the last three years (*three-year average ROA*) and the difference of a firm's market to book from its two-digit industry average (*Tobin's q relative to industry*). At the management level, we controlled for *board size*, *board duality*, and *CEO tenure*, and used a dummy variable for whether or not the CEO has been appointed within the last fiscal year (*new CEO*). Additionally, firms in the S&P 500 might have wider ownership and attract more attention for their rating changes, so we included a dummy variable for membership in the S&P 500 (*S&P 500 firm*).

Methods

We used ordinary least squares (OLS) regression and clustered the robust standard errors over the firms. Analysis of the residuals in both cases did not

show any outliers, and trimming the dataset at 1st and 99th quartiles on all the variables yielded results unchanged from those presented.

Robustness Checks

A potential threat to the internal validity of this study was the representativeness of the sample. In particular, because IBES and Zacks, the other major release database, no longer provide information on Merrill Lynch, Lehman Brothers, and a host of other banks, there was a concern that the omission of the major banks would bias our results if run today. Using a sample from IBES as it is currently available brought about no change in our results, and we retained the use of the sample that included Merrill and others for generalizability.

Also, there was a concern that the window we used to measure stock returns (CAR) could impact our results. Running the models using a [−1,1] window and [−3,3] windows yielded substantively similar results. In addition, we measured the reputation of analysts by their inclusion in a one-year ranking of analysts, and there was a possibility that this, too, might influence our results. We thus ran models measuring analysts using five-year running totals, similar to how we measured CEO reputation, as well as using only those analysts who were members of the "first team" of analysts and our results were substantively unchanged. Furthermore, although our reputation measures were consistent with prior work examining analyst, CEO, and firm reputation, we ran models looking at each reputation as a continuous five-year running total as well as a one-year dichotomous variable. In all cases, the results were consistent with the results presented here, both in statistical significance and in direction.

There is also the possibility that events surrounding downgrade/upgrade events confuse investors (Graffin, Carpenter, & Boivie, 2011). We ran the models again, first excluding all downgrade/upgrades within 14 days of an earnings announcement, and obtained the same results. Another possibility we wanted to explore was whether the effect of downgrades and upgrades was not linear. For instance, it is possible that a downgrade from a strong buy to a buy will have a different effect than a downgrade from a buy to a hold. Consequently, we also ran models looking at only upgrade/downgrade events in which the rating change was a major rating change (e.g., moving from the category buy to hold or from hold to sell). Using these categories of upgrades and downgrades did not change our results either. Finally, we also investigated whether the level of analyst coverage was important by excluding all firms who only had one analyst covering the firm that year (a downgrade from the firm's only analyst is likely to be very important) and found the same results without these cases.

RESULTS

The dataset is summarized in Table 1. The average overall effect of analyst changes across all downgrades and upgrades is negative in the sample, although it is less than half of one percent. On average, a recommendation revision is slightly more than one point out of five. There are no abnormally high correlations between the predictor variables, and our regression diagnostics did not show multicollinearity to be a problem in our models (variance inflation factor < 5).

Hypothesis 1 predicted that analyst reputation would amplify the effect of a downgrade or upgrade. This hypothesis is supported. In the case of the downgrade, coefficients for the star analyst variable in Models 2 and 3 in Table 2 are negative and statistically significant. Downgrades by a star analyst increase the negative return to −3.6% for the average firm, a $141-million greater drop for star analyst downgrades. In the case of the upgrade, the coefficients in Models 5 and 6 of Table 2 are positive and statistically significant. We found that upgrades by star analysts increase the positive abnormal return to 3.3%—an increase in market value of $159 million.

For clarity and interpretation, Table 3 shows the percentage decline in market valuation for star and non-star analysts against CEO awards in both the downgrade and upgrade cases. These were estimated using the *margins* command in STATA and holding all other variables at their mean.

Hypothesis 2 predicted that CEO reputation would diminish the effect of ratings changes on CARs. This hypothesis was supported. For the downgrade case, the coefficients for CEO awards in Model 2 and Model 3 in Table 2 are both positive and statistically significant. Each award provided to the CEO in the five years preceding a downgrade reduces the severity of the downgrade by a tenth of a percent, about $19 million per award. For the upgrade case, the coefficients for CEO reputation in Model 5 and Model 6 in Table 2 are negative and statistically significant, which supports this hypothesis. Firms that employ a star CEO experience a positive abnormal return, but that return is $10.1 million lower than for firms employing a high-reputation CEO.

TABLE 1
Summary of CARs Dataset

	Variable	Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	CAR [0,1]	−0.36	7.34																				
2	Star analyst	0.17	0.38	0.00																			
3	Star CEO	1.25	2.20	0.01	0.04*																		
4	Corporate reputation	0.02	0.14	0.00	0.03*	0.32*																	
5	Analyst experience	5.29	3.25	0.00	0.20*	−0.01	0.00																
6	Analyst experience with this stock	3.18	2.77	0.00	0.21*	0.04*	0.01*	0.65*															
7	Analyst job demands	18.70	13.47	0.00	0.06*	−0.01	0.01*	0.06*	0.05*														
8	Within 3 days of earnings release	0.21	0.41	−0.01	−0.01	0.00	0.01	0.01*	−0.01*	−0.05*													
9	Recent upgrades/ downgrades	0.48	1.02	−0.12*	−0.01*	0.09*	0.04*	−0.03*	−0.04*	−0.02*	0.08*												
10	Size of recommendation revision	1.34	0.52	−0.01	−0.05*	−0.02*	−0.01*	0.03*	0.02*	−0.03*	0.01*	0.02*											
11	Log(Revenue)	1.47	1.05	0.01*	0.14*	0.48*	0.28*	0.06*	0.15*	−0.01*	−0.04*	0.03*	0.00										
12	Related diversification	0.71	0.51	−0.01	0.02*	0.01*	−0.04*	0.08*	0.02*	−0.01*	0.01	0.00	0.03*	0.00									
13	Unrelated diversification	0.43	0.43	0.01	0.04*	0.14*	0.13*	−0.01	0.05*	0.00	−0.02*	−0.04*	−0.02*	0.34*	−0.40*								
14	Three-year average ROA	1.39	2.32	0.01*	−0.01	−0.02*	−0.02*	0.08*	0.01*	−0.05*	0.01*	0.02*	0.05*	−0.08*	0.10*	−0.07*							
15	Tobin's q relative to industry	0.62	0.65	−0.02*	−0.01	0.07*	0.06*	−0.04*	−0.01*	0.00	0.01	0.01	−0.03*	−0.07*	−0.07*	−0.03*	−0.20*						
16	S&P 500 firm	0.44	0.50	0.01*	0.07*	0.37*	0.15*	0.05*	0.10*	−0.01	−0.02*	0.01*	−0.02*	0.49*	0.05*	0.16*	−0.05*	0.05*					
17	Institutional ownership (%)	0.70	0.17	−0.01*	−0.01*	−0.21*	−0.13*	0.11*	0.03*	−0.05*	0.01*	−0.01	0.05*	−0.19*	0.06*	−0.14*	0.15*	−0.12*	−0.12*				
18	Board size	9.82	2.75	0.01*	0.11*	0.23*	0.12*	0.02*	0.11*	0.00	−0.05*	−0.01	−0.02*	0.57*	−0.05*	0.24*	−0.11*	−0.02*	0.28*	−0.21*			
19	Board duality	0.68	0.47	0.01	0.04*	0.02*	−0.01*	0.01	0.02*	0.01*	−0.01*	0.00	−0.01*	0.17*	−0.05*	0.13*	−0.04*	−0.03*	0.11*	−0.04*	0.10*		
20	CEO tenure	6.68	6.73	0.00	−0.03*	−0.08*	−0.01*	−0.01*	−0.02*	0.01*	0.01	0.00	0.00	−0.17*	−0.02*	−0.08*	−0.03*	0.07*	−0.12*	0.01*	−0.15*	0.19*	
21	New CEO (last year)	0.12	0.32	0.01*	0.01	0.01*	0.02*	0.00	0.02*	0.00	0.00	−0.01*	0.00	0.04*	0.01*	0.02*	−0.02*	−0.03*	0.02*	−0.03*	0.06*	−0.19*	−.036*

Note: $N = 36{,}878$.
* $p < 0.05$

TABLE 2
OLS Prediction of CARs during a Rating Change

	Downgrade CAR			Upgrade CAR		
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Star analyst		−1.08**	−0.90**		1.08**	0.95**
		(0.15)	(0.17)		(0.12)	(0.15)
Star CEO (awards over 5 years)		0.14**	0.16**		−0.07*	−0.09**
		(0.05)	(0.05)		(0.03)	(0.03)
Analyst by CEO interaction			−0.13*			0.09 †
			(0.06)			(0.05)
Corporate reputation	0.43	0.13	0.15	−0.46 †	−0.32	−0.36
	(0.35)	(0.38)	(0.39)	(0.27)	(0.32)	(0.32)
Analyst experience	−0.07**	−0.05*	−0.05*	0.02	0.00	0.00
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Analyst experience with this stock	0.00	0.01	0.01	−0.01	−0.02	−0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Analyst job demands	0.01*	0.01**	0.01*	−0.01**	−0.01**	−0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Within 3 day of earnings release	−1.63**	−1.69**	−1.68**	1.27**	1.29**	1.29**
	(0.23)	(0.23)	(0.23)	(0.16)	(0.16)	(0.16)
Total recent downgrades	−1.50**	−1.51**	−1.51**			
	(0.22)	(0.23)	(0.23)			
Total recent upgrades				1.07**	1.10**	1.10**
				(0.18)	(0.18)	(0.18)
Size of recommendation revision	−0.26*	−0.30**	−0.29**	0.22*	0.25**	0.25**
	(0.11)	(0.11)	(0.11)	(0.09)	(0.09)	(0.09)
Log(Revenue)	0.29*	0.18	0.17	−0.28**	−0.25*	−0.24*
	(0.11)	(0.12)	(0.12)	(0.10)	(0.10)	(0.10)
Related diversification	−0.18	−0.11	−0.11	−0.37**	−0.39**	−0.39**
	(0.19)	(0.18)	(0.18)	(0.12)	(0.12)	(0.12)
Unrelated diversification	−0.11	−0.06	−0.06	−0.10	−0.12	−0.13
	(0.24)	(0.24)	(0.24)	(0.16)	(0.17)	(0.17)
Institutional ownership (%)	−1.44**	−1.12*	−1.11*	−0.56	−0.64	−0.65
	(0.55)	(0.55)	(0.55)	(0.40)	(0.41)	(0.41)
Three-year average ROA	0.09	0.05	0.06	0.03	0.03	0.03
	(0.08)	(0.08)	(0.08)	(0.06)	(0.06)	(0.06)
Tobin's q relative to industry	−0.01	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
S&P 500 firm	−0.10	−0.21	−0.22	−0.46**	−0.42*	−0.41*
	(0.20)	(0.21)	(0.21)	(0.17)	(0.17)	(0.17)
Board size	0.09*	0.12**	0.12**	−0.08**	−0.09**	−0.09**
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Board duality	0.19	0.29	0.30	−0.12	−0.11	−0.11
	(0.23)	(0.22)	(0.22)	(0.14)	(0.14)	(0.14)
New CEO (last year)	0.19	0.16	0.17	0.16	0.13	0.13
	(0.26)	(0.26)	(0.26)	(0.15)	(0.16)	(0.16)
CEO tenure	0.00	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Year indicators	(Included)	(Included)	(Included)	(Included)	(Included)	(Included)
Industry sector indicators	(Included)	(Included)	(Included)	(Included)	(Included)	(Included)
Constant	0.48	−0.03	−0.08	1.63**	1.61**	1.63**
	(0.62)	(0.63)	(0.63)	(0.52)	(0.53)	(0.53)
F	7.02**	8.73**	8.93**	11.51**	11.70**	11.51**
R^2	0.09	0.10	0.10	0.06	0.07	0.07

TABLE 2
(Continued)

	Downgrade CAR			Upgrade CAR		
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
ΔR^2		0.01**	0.00**		0.01**	0.00**
N	19512	19512	19512	17358	17358	17358

Notes: Robust standard errors are in parentheses clustered over firms. For clarity, indicator variables for fiscal year and industry sector are not reported.

† $p < .10$
* $p < .05$
** $p < .01$

Hypothesis 3 proposed that firm reputation would diminish the effect of rating changes on CARs. This hypothesis was not supported in the case of a downgrade or an upgrade. Firm reputation has a small main effect on the effects of upgrades only when considered in isolation from the CEO's reputation and analyst reputation in Model 4 of the upgrade effects.

Hypothesis 4 proposed that analyst reputation would have a stronger effect on the CAR than CEO reputation, and that CEO reputation will be more influential that firm reputation. This hypothesis is mostly supported. For the downgrade case, using models with standardized coefficients and the *test* command in Stata, analyst reputation shows a statistically significant stronger effect than CEO reputation ($F = 27.28$, $p < 0.01$), and CEO reputation is stronger than corporate reputation ($F = 3.43$, $p < 0.1$). In the context of upgrades, analyst reputation has a statistically significant, stronger effect than CEO reputation ($F = 37.51$, $p < 0.01$). However, our results for firm reputation were inconclusive in the case of an upgrade. Although the direction and size of the coefficients indicate that it is weaker than CEO reputation, our results do not point to a significantly different effect size between CEO and firm reputation.

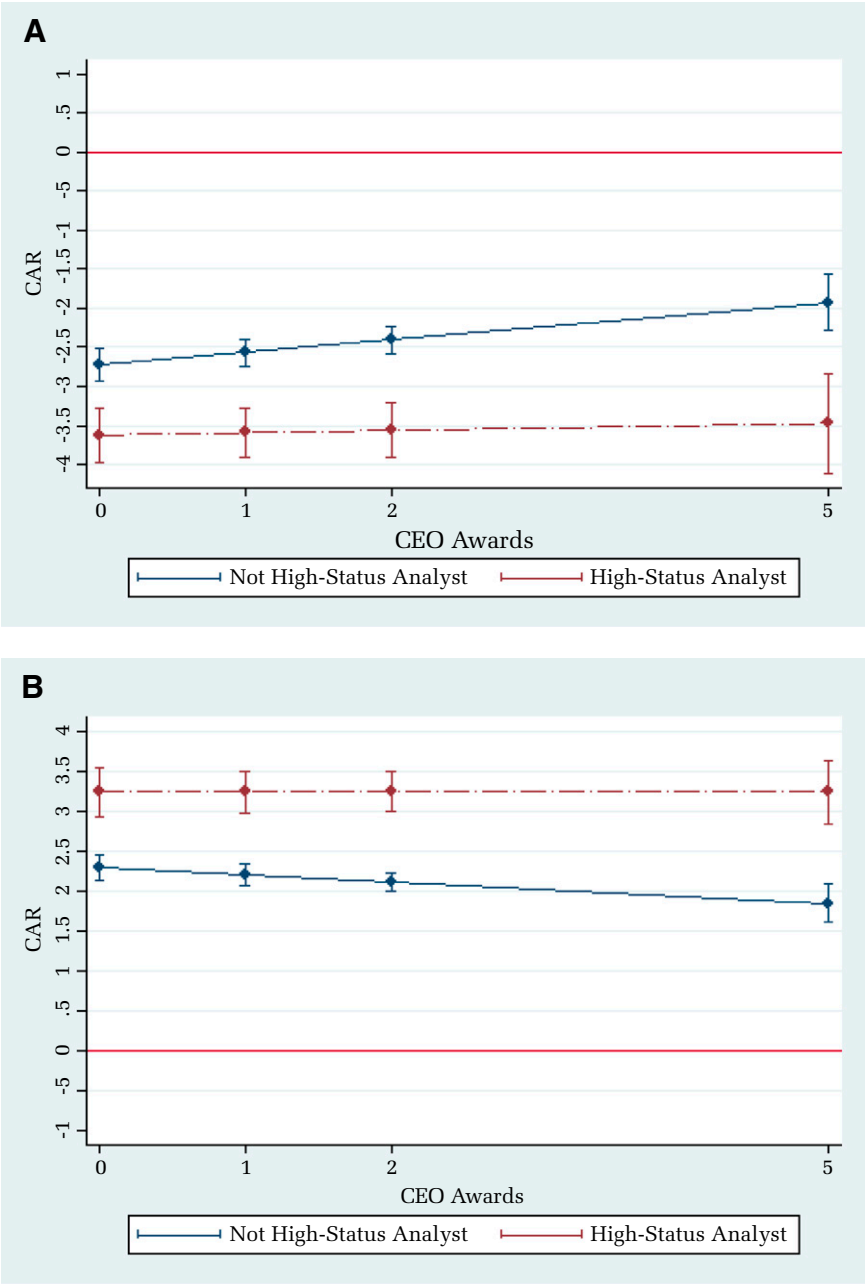
TABLE 3
Market Value Changes Resulting from Upgrade and Downgrades (%) Upgrades (% change in market value)

	CEO awards over the previous 5 years			
	0	**1**	**2**	**5**
Non-star analyst	2.29%	2.21%	2.12%	1.86%
Star analyst	3.27%	3.27%	3.28%	3.29%
Downgrades (% change in market value)				
	CEO awards over the previous 5 years			
	0	**1**	**2**	**5**
Non-star analyst	−2.74%	−2.58%	−2.42%	−1.93%
Star analyst	−3.62%	−3.60%	−3.57%	−3.49%

Hypothesis 5a predicted that high analyst reputation would moderate the positive effect of high CEO reputation. The coefficient of the interaction term in Model 3 in Table 2 is negative and statistically significant, which supports this hypothesis. A typical downgrade by a low-reputation analyst of a low-reputation CEO decreases the target firm's market value by $346.6 million. If the downgrade comes from a star analyst, the firm's value drops $488.4 million on average. High-reputation CEOs offset a downgrade's negative effect by $110.2 million, for non-star analysts. If the CEO has won five awards over the preceding years, placing him or her in the upper decile of CEO reputation, the high-reputation analyst's downgrade lowers the firm's value by $475.6 million, a value that is not significantly different than in the case of a CEO with no awards downgraded by a high-reputation analyst. If the firm is downgraded by a star analyst, CEO reputation does not offset the downgrade's effect. In this situation, where the reputations of the two actors collide, analysts appear to have more impact on market value. We chart this relationship Figure 1A.

Hypothesis 5b proposed that analyst reputation and CEO reputation would interact to reduce the negative main effect of CEO reputation on the market's positive reaction to an upgrade. When a star CEO's firm is upgraded, the market does not react as positively as it does for a non-star CEO or when a star analyst upgrades the firm. When the analyst and the focal CEO are stars, the positive and marginally statistically significant effect in Model 6 of Table 2 on

FIGURE 1
Representation of Relationships Presented in Models



Note: A = CAR [0,1] following downgrade; B = CAR [0,1] following upgrade.

the analyst by CEO interaction suggests that the CEO's reputational effect is moderated. Hypothesis 5b is thus partially supported.

Looking at the market's reaction to upgrades plotted in Figure 1B, analyst reputation and CEO reputation both appear to have important effects on the firm's market value. In this situation, the analyst's reputation has a much stronger impact on the firm's value. An upgrade by a low-reputation analyst raises the firm's market value by $333.5 million for firms with a low-reputation CEO, while a star analyst releasing an upgrade raises the low-reputation CEO's firm by $475.2 million. If the CEO has won five awards over the preceding five years

and is upgraded by a low-reputation analyst, the firm's value increases only $270.7 million, while an upgrade by a star analyst raises the firm's value by $479.2 million on average. CEO reputation negatively moderates the impact of an upgrade by low-reputation analysts, but appears to strengthen the effect of upgrades by star analysts. When a star analyst upgrades a star CEO, the positive effect of having five or more CEO awards equates to about $5 million.

Supplemental Analyses

As described above, the main goal of our paper was to explore the joint effects of multiple reputations on market reactions to stock upgrades or downgrades. Our findings largely support our hypotheses. We also wanted to explore how the underlying dynamics of analyst, CEO, and firm reputation, as well as the frequency of changes in forecasts, may have affected our results. We thus ran additional analyses to explore these processes, using the same controls described above and the same sample. First, we constructed a series of models in which we predicted the number of upgrades or downgrades a firm would receive. Our goal in these models was to see how analyst and CEO reputation jointly affect the number of upgrades and downgrades a firm receives. We found that firms being covered by star analysts received more upgrades and downgrades. These findings, which are consistent with those of prior research (Hayward & Boeker, 1998), suggest that star analysts may simply have more discretion in changing the recommendations they issue, and may also have a greater incentive in making changes in order to maintain their recommendation's accuracy. We also found that firms led by star CEOs received both more downgrades and more upgrades. This result was initially surprising. While we are not able to directly explain this set of findings, it could be the case that analysts may see changing recommendations for firms led by star CEOs as a means by which they can garner attention. Further, we found that having a large number of CEO awards decreased the number of downgrades a firm received by star analysts. So, the implication here is that firms led by star CEOs receive greater scrutiny in general (e.g., more upgrades and downgrades), but CEO reputation may offset that scrutiny for star analysts. We explore the implications of these findings in the Discussion section, below.

A further complication in our results was the importance of high-reputation firms. Firm reputation has been shown to be an important moderator of the influence new information has on investor reactions. Our theory suggests that CEO and analyst ratings are the most important indicators in the context of analyst rating changes, and we did not find a main effect for corporate reputation in the presented results, nor did we hypothesize any interactive effects of firm reputation. However, in some of our supplementary analyses, we did find that corporate reputation occasionally had a main effect on investor reactions. This main effect was always in the same direction as the CEO effect, suggesting that, in this context, firm reputation may not be providing much additional explanatory value beyond CEO reputation. In models in which we measured reputation using a standardized five-year count of certifications over the preceding five years, we found that the effect of corporate reputation was smaller than the effect of CEO reputation in the case of both upgrades and downgrades. Further, although we did not predict interactive effects for firm reputation, we ran additional models in which we tested all three possible two-way interactions (between analyst, CEO, and firm reputation) and models employing a three-way interaction. The three-way interactions were not significant in any of the models we tested. In some cases, the interaction of CEO reputation and corporate reputation was significant, but this effect was not robust across model specifications, and it was always a small effect in the opposite direction of the main effects of CEO and corporate reputation—further indicating that CEO reputation and corporate reputation appeared to provide similar information to investors. Our results, then, should not be interpreted as a rejection of corporate reputation, but only that the effect is less consistent in the context of analyst rating changes than the other two types of reputation measured. Given the inconsistency in our results and its non-centrality to our theory, we have not hypothesized the interactive effects of corporate reputation, although its importance to stakeholders has been clearly demonstrated in other contexts.

DISCUSSION

This paper set out to examine the issue of what happens when reputations from multiple actors overlap. While the impact of a given reputation on a number of specific outcomes is well established, our goal was to broaden our understanding of reputation to include the effect of multiple reputations on organizational outcomes. To do this, we examined both the simultaneous and joint effects of analyst, CEO, and firm reputation on the market reaction to

changes in analyst recommendations. Overall, our theory and findings suggest that multiple reputations do matter. We found both main and interactive effects of these different reputations, but much of what is interesting about our theory and findings is the nuance of how and why the various types of reputation are influential.

Our first set of hypotheses examined the main effects of analyst reputation on the CARs associated with those changes while controlling for the reputation of the CEO and the firm. We found that changes made by star analysts—both upgrades and downgrades—had a bigger effect on firms' stock prices than changes in recommendations from their less-renowned counterparts. Specifically, a downgrade by star analysts increased the negative market reaction by 40%, while an upgrade by a star analyst increased the positive market return by 42%.

These findings suggest a number of theoretical contributions. First, we argued and found that analyst reputation has a monetarily significant impact on firms' stock prices. When star analysts make changes, the market reaction is amplified by their reputation. Further, these findings also make a contribution to the reputation literature more generally by considering the main effects of star analysts while also controlling for two other types of reputation: CEO and firm reputation. Almost all prior studies of reputation consider the concept in isolation. Here, we argued and found that analysts have significant effects even when CEO and firm reputation are included.

As described above, in an effort to better understand what may be driving these results, we also performed supplementary analyses that examined the impact of analysts' reputation on the frequency with which analysts issue upgrades and downgrades. The results of these analyses suggest that analyst reputation affects analysts' subsequent behavior by leading to analysts being more willing to make changes to their issued recommendations. When combined with our findings relating to the impact of analysts' upgrades and downgrades, we find that star analysts' changes in recommendations are not only more influential but also more frequent.

Our second set of findings support the idea that CEO reputation is also influential for this audience. Consistent with our hypotheses, we found that firms led by star CEOs experienced less extreme reactions to both upgrades and downgrades. Specifically, firms employing star CEOs experience 4% less of a reaction to an upgrade and 3% less of a reaction to a downgrade for each award won in the previous five years. These findings are consistent with our predictions, and provide support for our claim that having a star CEO serves to reduce uncertainty about the firm's future prospects, which reduces the impact of recommendation changes. These findings contribute to the growing literature on executive reputation by suggesting that star CEOs have both some beneficial and potentially some less beneficial effects. Future research may wish to further explore such interdependencies. Additionally, just as with our findings regarding star analysts, these findings also demonstrate that CEO reputation continues to be influential even when controlling for analyst and firm reputation.

Our third set of predictions examined the relative importance of the three types of reputation. We built upon our theoretical framework to argue that reputation attribute specificity and relatedness to a particular audience will be important when considering which type of reputation will be most influential. We argued and found support for our claim that analyst reputation will have the largest impact on shareholders. Of the three types of reputation considered in this study, analyst reputation is based on the most specific attributes (e.g., forecast accuracy) and is most related to the expectations of the audience in question. Specifically, we found that star analysts have a large and statistically significant impact on the market's reaction to a downgrade or upgrade. Additionally, although the CEO's reputation could offset the market's reaction to an upgrade or downgrade, that reputation was not influential when the analyst issuing the downgrade was a star analyst. Although we predicted that CEO reputation would be more influential than firm reputation, we could not fully support that hypothesis because firm reputation was not statistically significant, and so analyzing the magnitude of the effect is more difficult. However, our pattern of results appears broadly supportive of our theoretical framework.

Finally, we examined the joint effects of analyst and CEO reputation. Using the same framework, we predicted and found support for our claim that, while both types of reputation are influential, the reputation of analysts has a greater influence with regard to stock market reaction. Analyst reputation reduces the influence of CEO reputation on the stock market reaction to both upgrades and downgrades. Further, our supplemental analyses suggest that, although firms run by star CEOs receive more downgrades on average, CEO reputation influences star analysts by decreasing the number of downgrades a firm receives by them. This implies that, while

firms led by star CEOs receive greater scrutiny in general, their reputation partially offsets scrutiny from star analysts. Once a downgrade is issued, however, the analyst's reputation plays a bigger role in influencing a firm's stock price than does CEO reputation. Specifically, a downgrade by a star analyst causes tremendous valuation changes, which are not offset by the CEO's reputation. Indeed, our results suggest that CEO reputation buffers the stock market reaction to downgrades by regular analysts, but, when a downgrade is issued by a star analyst, the CEO's reputation has virtually no effect on the market reaction. We also found a joint effect when we examined the market's reaction to upgrades. Analysts might be aware of their ability to move markets and appear to exercise that ability when they are well respected. Indeed, our supplementary analysis suggested that star analysts issue more recommendation changes.

Our findings regarding the joint effects of analyst and CEO reputation make a couple of theoretical contributions. First, this study is one of the very first to consider the joint effects of multiple reputations simultaneously. Given the extensive research on reputation and the many contexts, market actors, and outcomes that have been shown to be influenced by reputations, this is an important finding. Our study's results suggest that a given reputation should not be considered in isolation, but, instead, should be examined in light of other reputations that may be relevant to a given outcome—much of the prior literature on reputation could be enhanced by considering these joint and simultaneous effects. Further, these results provide additional support to our theoretical framework regarding the importance of the specificity and relatedness of reputation. They also provide a contribution to both the analyst and CEO literatures by showing the strengths and the limitations of each type of reputation.

Practical Implications

Our study highlights the practical importance of reputation. Star analysts move markets dramatically and are generally more likely to issue recommendation changes. If star analysts have these effects, then it might be worthwhile considering to what types of firms they are assigned. Markets may function more effectively if these influential analysts are distributed more evenly across all firm sizes and types. Additionally, our supplementary findings suggest that investors should be careful when reading analyst research about firms that are not run by star CEOs, as these firms appear to receive less scrutiny by analysts in general.

Limitations and Future Research

This paper, like all empirical studies, is subject to several limitations. First and foremost, it incorporates a U.S.-specific sample. The extent to which its findings regarding the relationship between corporations and equity markets can be generalized to other parts of the world is unclear. Secondly, we treat recommendation changes in isolation. Although we control for recent rating changes, the clustering of downgrades or upgrades may serve to reinforce or damage CEO reputation in a nonlinear way. Targeting by multiple analysts simultaneously may rapidly undermine CEO reputation and its buffering effect. Additionally, reputation in our study comes from many different sources. It would be very interesting to compare reputational overlap in a setting where the same body is providing the certification; for example, in relay CEO successions.

A final limitation relates to the extent to which our OLS model was able to explain substantial variance in our dependent variable, CARs. CAR studies already control for the performance of the firm's stock over the preceding period and temporal factors such as general market movements. This strips out a great deal of the variance that would normally be explained by a comprehensive set of control variables. It also demonstrates how hard it is to predict market reactions. Most studies of firm performance examine a broad indicator of performance such as ROA and then include many other factors that are known to influence ROA, which raises the overall variance explained in the model. Because of this, CAR studies may be an example of an instance when small effect sizes are still impressive because the variable is difficult to influence (Prentice & Miller, 1992).

Further, although the additional variance explained by our predictor variables is small, it is similar to that found in other research. For instance, Stickel (1992), who conducted one of the first studies in the finance literature on star analysts, found an incremental R^2 of 0.021, while other studies in the management field have detected incremental improvements of 0.015 (Schijven & Hitt, 2012), 0.03 (Lee & James, 2007), and 0.01 (Wade et al., 2006). This overall level of explained variance is consistent with even the most recent research in the field that uses CARs as the dependent variable (Paruchuri & Misangyi, 2015; Rhee & Fiss, 2014; Yang, Zheng, & Zaheer, 2015). Consequently, we feel that the incremental variance

explained by our variables (about 0.01) is consistent with other research using CARs. More importantly, although the overall variance explained is small, our effect sizes appear to be practically significant in terms of dollar value. Changes in our variables of interest explain millions of dollars in market valuations.

CONCLUSION

Reputation is an important form of social information that affects many types of market exchanges. In many contexts, an exchange can involve more than one type of reputation; regulators, producers, retailers, and customers can all bring a reputation into an exchange. In this study, we have taken an important first step in examining how multiple types of reputation influence important outcomes in equity markets. Given the importance of reputation on so many outcomes, our findings suggests multiple avenues for future studies that consider how and when other types of reputation should influence one another.

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