INVESTOR PERCEPTIONS OF FINANCIAL MISCONDUCT: THE HETEROGENEOUS CONTAMINATION OF BYSTANDER FIRMS

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We suggest that, when one firm reveals financial misconduct, others in the industry suffer lower valuations, but do so heterogeneously. To understand this heterogeneity, we conceptualize such contamination as a generalization–instantiation process: investors generalize the culpability to the industry category and perceive the instantiation of generalized culpability within the industry bystander firms. This theoretical separation allows us to hypothesize the factors that affect the degree to which both of these elements of the contamination process occurs. Specifically, we predict that characteristics of the misconduct firm or event—factors that lend to investors' familiarity with the misconduct firms, or that prompt attributions of blame for the misconduct—affect the potency of the generalization of culpability to the industry, while characteristics of the industry bystander firms—investors' familiarity with such firms, or factors that lend to investors' perceptions that they have strong governance—affect the firms' vulnerability to being perceived as instantiating the generalized culpability. We tested our hypotheses on a sample of 725 firms across 84 financial misconduct events, and the results of our event analyses broadly support our predictions. Our study thus has implications for future research on the social view of financial markets, organizational misconduct, and corporate governance.

There is growing interest in the critical role that investors' perceptions, attitudes, beliefs, and emotions play in the functioning of financial markets. While research, for the most part, has focused on gaining a general understanding of investors' irrational exuberance (e.g., Shiller, 2002) or lack of rationality (e.g., Hirshleifer & Teoh, 2003), there has been some research that has examined investors' perceptions of the firms involved in misconduct (e.g., Akhigbe, Kudla, & Madura, 2005; Palmrose, Richardson, & Scholz, 2004). Given that this latter research has predominantly focused upon the subsequent valuations of the misconduct firms themselves (for an exception, see Xu, Najand, & Ziegenfuss, 2006), there is a dearth of knowledge as to the effect that financial misconduct has on in-

vestors' perceptions of other firms not involved in the misconduct. Even less is known about the factors that may work to strengthen or weaken such investors' perceptions. Our aim in the current study therefore is to investigate both of these issues. To the extent that investor perceptions and confidence in the context of misconduct leads to broader negative valuation effects, developing an understanding of investors' perceptions surrounding misconduct is of paramount importance. Indeed, investor perceptions have long been a major concern for policy makers. Likewise, building "public confidence in the nation's securities markets and [b]eing able to provide continued [investor] confidence is the bulwark of the SEC's charter" (see Klein, 1998: 665).[1] The importance of investor perceptions was also at the foundation of the Sar-

[1] "Investor confidence" can, however, have various meanings. While lawmakers and legal scholars typically are concerned with "investor confidence in the fairness and integrity of our capital markets" (e.g., Klein, 1998), behavioral finance research has tended to examine investors' "confidence as to whether the U.S. stock market would allow them to meet their long-term financial goals" (Dreman, Johnson, MacGregor, & Slovic, 2001: 130), and has largely concerned itself with investors' excessive optimism (e.g.,"irrational exuberance"; Shiller, 2000; 2002).

banes–Oxley Act of 2002 (SOX) (enacted July 30, 2002), the primary objective of which was to bolster investor perceptions of publicly traded securities in the aftermath of the financial misconduct that occurred at Enron and Arthur Anderson by increasing the transparency and accountability of corporations and their auditors (Jain, Kim, & Rezaee, 2008).

We argue that, when one firm reveals financial misconduct, firms in the same industry category suffer lower valuations, but do so in a heterogeneous manner. This contamination following financial misconduct occurs in the minds of investors, and we conceive it to involve a generalization–instantiation process. That is, building on extant research, we suggest that, upon the revelation of financial misconduct at one firm, investors generalize the guilt to the industry category of the perpetrator. We further suggest that this contamination process also inherently involves investors' perceptions of the instantiation of this generalized culpability in each of the particular industry bystander firms. While these two aspects of the contamination process occur simultaneously, treating them as conceptually separate allows us to theorize about the factors that affect the degree to which both of these constituent elements of contamination occurs.

To develop our arguments, we integrate research that has taken a social view of financial markets (e.g., Zuckerman, 2012) with research suggesting that "innocent" third parties can suffer following a scandalous act through observers' generalization processes (Adut, 2005; Jensen, 2006; Jonsson, Greve, & Fujiwara-Greve, 2009). With respect to the latter research, Jonsson et al.'s (2009) study found that, following a series of scandals at one firm, there was an increase in the withdrawals by exchange partners at other similar firms not involved in the scandal. As they put it, when an act of organizational misconduct occurs, there is a "contagion of judgment from the culpable organizations to others the audience members see as related" (Jonsson et al., 2009: 196). While we embrace this view here, we integrate it with research on the social view of financial markets, which has clearly established that, when it comes to investors, any such generalizations primarily rely upon industry categorization processes. Zuckerman's (1999; 2000; 2004) seminal work has found that investors' industry categorizations of firms is fundamental to market valuations. Furthermore, and somewhat similarly, previous studies investigating investors' reactions following product recalls or accidents involving hazardous materials (e.g., chemical spills) at one firm have found that investors negatively evaluate all firms in the same industry as the firm committing such "errors" (e.g., Barnett & King, 2008).

We combine these disparate research streams to first posit that, when one firm reveals financial misconduct, a generalization of culpability ensues such that investors worry that all firms in the same industry category as the misconduct firm are also likely to have engaged in similar misconduct. Therefore, among all of the innocent or bystander ("bystander," hereafter) firms not involved in the revealed financial misconduct, those in the same industry as the perpetrator (i.e., industry bystanders) suffer lower valuations. Furthermore, we suggest that this generalization of culpability to the industry category is not necessarily the same across different perpetrators or misconduct events. Indeed, previous proposals in the political realm that scandals will be stronger when they involve a high-status actor are congruent with this notion (e.g., Adut, 2005). In the current study, we argue that investors' familiarity with perpetrator firms makes investors' generalizations of culpability to the industry category more potent, and that misconduct event characteristics that prompt attributions of blame for the misconduct to organizational agents will lessen the potency of such generalizations.

We further argue that the culpability generalized to the industry category will not necessarily be seen by investors as being equally instantiated among the industry bystander firms. There is some evidence to lend credence to this idea. For instance, Vergne's (2012) study of the global arms industry showed that, when firms in that "stigmatized" industry diversified into other industries, this worked to lower their disapproval among members of the media. In other words, Vergne's findings are consistent with the notion that, in the minds of stakeholders, individual firms may not fully instantiate the stigma that plagues the category as a whole. In the current study, we suggest that investors' familiarity with the industry bystander firms makes such firms more vulnerable to being seen by investors as instantiating the generalized culpability. Industry bystander firm characteristics that elicit perceptions of strong governance, on the other hand, lessen such firms' perceived instantiation of the generalized culpability.

In formulating and testing our hypotheses, we focus in upon a particular type of financial misconduct: accounting irregularities resulting in financial restatements (e.g., Arthaud-Day, Certo, Dalton, & Dalton, 2006; Harris & Bromiley, 2007). Corporate

misconduct can be broadly defined and come in many forms (Greve, Palmer, & Pozner, 2010), and this is no less true for financial misconduct, as it can also be construed to involve earnings management (e.g., Bergstresser & Philippon, 2006; Ronen, Tzur, & Yaari, 2006), excessive risk taking (e.g., JPMorgan Chase's recent debacle, De La Merced, 2012), pyramid schemes (e.g., Bernie Madoff), and embezzlement (e.g., Peregrine Financial Group Inc.; Rothfeld & Bunge, 2012), to name just a few. Thus, following Harris and Bromiley's (2007) suggestion that focusing upon a particular type of misconduct enables more rigor in conducting research on the issue, our current inquiry is focused on financial misconduct involving accounting irregularities (which, for ease of presentation, we simply refer to as "financial misconduct" hereafter). We tested our hypotheses on a sample of 725 S&P 1500 firms covering 219 industries surrounding 84 financial restatement events in 2004, as captured in the "Financial Restatement Database" compiled by the U.S. Government Accounting Office (GAO) (U.S. GAO, 2006), as these restatements indicate revelations of financial misconduct (e.g., Arthaud-Day et al., 2006; Harris & Bromiley, 2007). Furthermore, we chose this particular context following the passage of SOX as part of our research design to help ensure the salience of the governance factors under examination, a design consistent with previous work that has examined market valuations based on perceptions (e.g., Barnett & King, 2008; Zajac & Westphal, 2004).

THEORETICAL BACKGROUND AND HYPOTHESES

Financial Misconduct and Investors' Generalization of Culpability

The extant literature taking a social view of financial markets offers two critical insights that are foundational for our current inquiry. First, categorization processes guide investors' valuations of firms (e.g., Fligstein, 2001; White, 1981; Zuckerman, 1999, 2000, 2004, 2012). Categories divide social space into groupings of actors or objects with similar characteristics, and such groupings facilitate social actors' schematic processing and sensemaking of the world around them (e.g., Ashforth & Humphrey, 1997; Srull & Wyer, 1989), including how they make sense of organizational forms (e.g., Jonsson et al., 2009; Scott, 2001). This is because each category becomes associated with its own pro-

totypical behaviors that define what is typical, legitimate, or normal for members of the category. Categorization processes are therefore particularly useful for uncertainty reduction because they provide schemas by which social actors can classify and evaluate new information, actors, and objects as they are encountered (Ashforth & Humphrey, 1997; Hogg & Terry, 2000; Zuckerman, 1999). As White (1981) suggested, these processes thus also apply to investors and their judgments, and Zuckerman (1999: 1431; 2000; 2004) has further argued that these categorization processes especially apply to investors: because the quality of a firm and its stock is largely unobservable and highly ambiguous, investors' evaluation of firms is an "interpretive exercise" for which industry categorization processes are "fundamental."

Second, then, (Zuckerman's 1999, 2000, 2004, 2012) influential work has shown that industry categorizations are central to firms' market valuations. Moreover, there is evidence for several factors that reinforce the use of the industry-based categorization of firms in the valuation of stocks. Journalistic accounts of the stock market, which serve as critical sensemaking tools for stockholders (e.g., Rosa, Joseph, Runser-Spanjol, & Saxon, 1999), primarily make comparisons among firms in the same industry. Industry categorization is also reinforced in academic research on valuations, which typically compares firms within industries (e.g., Firth, 1996; King, 1963). Corporations also reinforce this industry-based categorization in their annual reports and self-presentations through comparing themselves with other firms in their industry (Porac, Wade, & Pollock, 1999).

As already noted above, studies of firm "errors," such as product recalls (e.g., automobiles, drugs, etc.) and industrial accidents (e.g., hazardous chemical spills, etc.), also show that such errors "attributable to a single firm can indeed have adverse financial consequences for an entire industry" (Barnett & King, 2008: 1153). This research thereby further supports the notion that investors' valuations rely upon industry categorization processes. For example, Barnett and King's (2008) study of market valuations of chemical companies following an industrial accident found that, when an accident occurred at one firm, investors' held negative evaluations of the other firms in the industry as a whole, presumably due to their concerns over increased future regulation in the industry. Although the mechanism for investors' negative valuations following an accident—fear of tighter

regulations (and, thus, reduced future profits)—posited by Barnett and King (2008) differs from Jonsson et al.'s (2009) proposed generalization of culpability, Barnett and King's "reputation commons" perspective[2] nevertheless suggests that generalization processes, and, in particular, industry categorization, are at work following industrial accidents. Reputation commons are proposed to operate through:

> . . . stakeholders' mental classifications of firms . . . that are simplistic and so can produce broad-brushed responses. As a result, a crisis stemming from the actions of one firm can cause stakeholders to update their beliefs about the reliability and accountability of other firms in the same industry.
>
> (Barnett & King, 2008: 1153)

Our baseline argument then is derived by combining this foregoing research that has forwarded a social view of market valuations with Jonsson et al.'s (2009) recent findings with respect to the generalization of culpability following organizational misconduct. As briefly discussed above, Jonsson et al. argue that, through organizational stakeholders' generalization processes following an act of deviance by one firm, "a contagion of legitimacy loss can take place among organizations that are categorized as similar" (2009: 196). We build upon Jonsson et al.'s suggestion, but argue that, because industry categorizations play a fundamental role in market valuations, when a financial misconduct event is revealed, investors generalize the culpability of the perpetrator to the industry category as a whole. That is, the market valuations of bystander firms in the same industry in which the financial misconduct is revealed will be negatively affected, as compared to bystander firms that are not in the same industry.

While our argument embraces the mechanism proposed by Jonsson et al. (2009) to underlie generalizations of misconduct—we similarly suggest that the mechanism underlying investors' generalizations following the revelation of financial misconduct is the belief that all firms in the industry category may have similarly engaged in the financial misconduct—it integrates it with the social view of market valuations, which clearly suggests that, when it comes to investors, any generalization

of misconduct by investors will be to the misconduct firm's industry category.[3] Furthermore, while our argument doesn't preclude the possibility that the negative effect suffered by industry bystander firms may also be due to investors' concerns over future regulation in the industry (e.g., Barnett & King, 2008), extant evidence on financial misconduct suggests that this would not be the operative concern underlying investors' generalizations. Regulations to control financial misconduct are rarely targeted to specific industries, and, in general, they are difficult to enforce (e.g., Harris & Bromiley, 2007; Rezaee, 2005; Schnatterly, 2003). Moreover, evidence in the accounting literature suggests that the cost of capital to the firms in an industry, following a financial restatement event, does not increase (i.e., investors' fear of regulation would, instead, result in an increase in the cost of capital; Xu et al., 2006). Furthermore, that the mechanism we propose here is at work among investors is corroborated by the following quote from an investment analyst:[4] "We scrutinize other firms in the industry to check if they could also have possibly done similar things."

Stated formally, our baseline hypothesis is that:

Hypothesis 1. The announcement of a financial misconduct at one firm more negatively affects the market valuations of bystander firms in the same industry than it does bystander firms not in the same industry.

Factors Affecting the Strength of Investors' Generalizations of Culpability

As we have already discussed above, we further theorize that the potency of the generalization of culpability to the industry will vary based upon the characteristics of the misconduct firm or miscon-

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[2] According to which, "when one firm's actions influence the judgments observers make of another firm or an industry as a whole, a commons arises" (Barnett & King, 2008: 1152).

[3] This does not imply, however, that investors' generalizations rely *exclusively* upon industry categorizations. Rather, our argument is that industry categories take prominence in investors' generalization processes. As we detail below, in the Methods section, our research design incorporates several controls to account for the possibility that generalizations may also occur along other lines beside industry categories, as per Jonsson et al.'s (2009) arguments (i.e., to other bystander firms not in the same industry but with similar characteristics).

[4] One of the co-authors conducted interviews with several investment analysts as a means to further investigate this issue. This quote is representative of what we learned from these interviews.

duct event. First, we suggest that characteristics of the perpetrator firm that increase investors' familiarity with such firms will strengthen investors' generalizations of culpability to the industry category. In brief, previous research suggests that investor familiarity with firms greatly affects their investment decisions (e.g., Huberman, 2001; Merton, 1987), and, furthermore, because people tend to rely upon information that is easily available and accessible in their social cognition processes (e.g., Hogg, Terry, & White, 1995), familiarity enhances generalization and categorization processes (e.g., Ashcraft, 1978; Jonsson et al., 2009; Loken & Ward, 1990; Sherman, Judd, & Park, 1989). As we further argue below, when perpetrator firms are familiar to investors, the generalization of culpability is more potent.

We also suggest that characteristics surrounding the misconduct event that allow investors' to ascribe blame for the misconduct—in particular, when employees at the perpetrator are fired for the misconduct, or when there is an ongoing government investigation of the perpetrator at the time of the announcement of the financial misconduct—will work to mitigate investors' generalizations of culpability, given that these characteristics invoke agentic attributions toward individuals and thus away from the category as a whole. In short, previous theory and research suggests that organizational observers have a propensity to attribute firm actions and outcomes to individual rather than structural forces (e.g., Meindl, Ehrlich, & Dukerich, 1985), and, thus, we suggest that characteristics that elicit such "agentic" attributions should help to counter categorization processes. Although past research on such attributional processes has typically focused on performance extremes (e.g., Meindl et al., 1985), or characteristics or actions of the firm that lend to perceptions of strong leadership (Chen & Meindl, 1991; Fanelli, Misangyi, & Tosi, 2009), as we further discuss below, previous research on "scapegoating" inherently suggests that ascriptions of blame to organizational actors invoke similar agentic attributions among observers. Ascriptions of blame deflect attributions away from the social group as a whole, and, therefore, once the misconduct has happened, characteristics surrounding the event that allow for ascribing the blame for the misconduct to individuals isolate the misconduct, thereby weakening the generalization of culpability.

While Figure 1 summarizes all of the relationships under study, the top portion of the figure depicts these just-discussed relationships.

Perpetrator firm familiarity. Prior research in the accounting and finance literatures suggests that, rather than basing their trading and valuations of firm securities on all of the available information about all possible firms, investors tend to heavily rely upon the information that is readily available and easily accessible to them (Hirshleifer & Teoh, 2003). In particular, investors tend to trade "in securities with which they are familiar" (Huberman, 2001: 659–660; Merton, 1987). For example, investors tend to be more familiar with large firms as stock analysts pay more attention to such firms; "institutional investors and security analysts tend to neglect firms that lack visibility-enhancing characteristics, such as large size" (Bushee & Miller, 2012: 867). Familiarity has important implications for investors' generalization of a perpetrator firm's culpability, as it enhances generalization and categorization processes (e.g., Ashcraft, 1978; Jonsson et al., 2009; Loken & Ward, 1990; Sherman et al., 1989). Previous studies on categorization have found, for example, that familiar items are rated as highly representative of a category, as compared to less familiar items in the category (Hampton & Gardiner, 1983; Loken & Ward, 1990; Schwanenflugel & Rey, 1986). Furthermore, when members are seen as highly representative of their group, their behavior tends to be generalized to the whole group. For example, evidence from political science research (Rothbart & John, 1985; Rothbart & Lewis, 1988) has found that the tendency to infer voting behavior (liberal vs. conservative) from an individual fraternity member to the fraternity as a whole increased when the fraternity member was seen as highly representative of the fraternity. In sum, this extant research implies that the behaviors of familiar group members are more likely to be generalized to the group as a whole than are the behaviors of less familiar group members, and that this enhancing effect of familiarity on generalization is likely to operate among investors' valuations.

We therefore posit that, in the context of investor perceptions of financial misconduct, investors will see those perpetrator firms with which they are familiar as being representative of the industry as a whole, and this familiarity therefore makes the culpability of the perpetrator firm more potent for generalization. Investors' familiarity with the perpetrator firm thus influences the strength of the generalization of culpability to the industry cate-

FIGURE 1
Heterogeneity in the Contamination Following the Revelation of Financial Misconduct: Factors Affecting Investors' Generalization of Culpability and Their Perceptions of its Instantiation
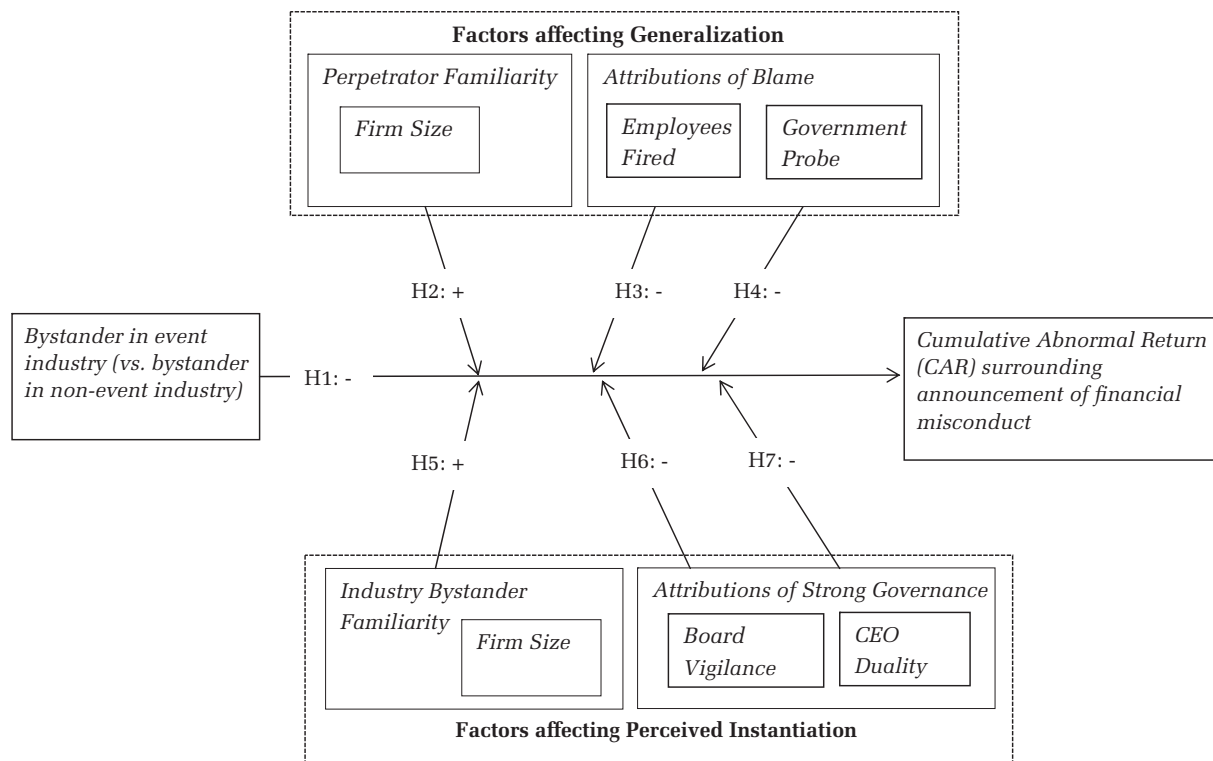
gory following the revelation of misconduct. Formally:

Hypothesis 2. Investor familiarity with the perpetrator firm will influence the negative market evaluation suffered by industry bystander firms relative to non-industry bystander firms such that this negative effect will be stronger for more familiar perpetrator firms.

Attributions of blame: Employee firings and ongoing government investigations. There is perhaps no action that would lead to agentic attributions more so than that of blaming specific actors for the misconduct event. Indeed, the notion of a "scapegoating mechanism" was developed in anthropological philosophy to explain the means by which attributions are deflected away from the group as a whole (Burke, 1945; Girard, 1986). As previous scapegoating research has noted, the "primary function of scapegoating is to preserve the existing . . . social system . . . by attributing dysfunctions or difficulties within the system to the personal failings and inadequacies of an individual member" (Gemmill, 1989: 410). Along these lines,

previous research on organizations has suggested, for example, that top managers may cast blame (i.e., scapegoating) on their subordinates in order to placate organizational stakeholders—for instance, subordinates to the CEO are dismissed for inferior organizational performance rather than the CEO (Boeker, 1992).

In the context of the current inquiry, this suggests that actions taken by the perpetrator firm that ascribe blame for the misconduct will invoke agentic attributions among investors, thereby restricting the guilt of the perpetrator firm from being generalized by investors to the industry category as a whole. Thus, compared to a context where no individual is fired for the misconduct, we argue that, when employees of the perpetrator firm are fired for the financial misconduct, this makes the culpability less potent for generalization. Formally:

Hypothesis 3. The firing of employees at the perpetrator firm for the misconduct will influence the negative market evaluations suffered by industry bystander firms relative to non-industry

bystander firms such that this negative effect will be weaker when employees of the perpetrator firm were fired for the misconduct.

A second characteristic that will lead to attributions of blame for the misconduct is an ongoing government investigation of the perpetrator firm. While government investigations of firms are relatively rarely undertaken—indeed, even though there were more than 20,000 investor complaints filed to the U.S. Securities and Exchange Commission (SEC) in 2000, only 112 of these received investigative or enforcement action by the SEC (Cox, Thomas, & Kiku, 2003)—when such investigations do happen, they typically result in specific individuals within the firms being held responsible for the misconduct. For example, Karpoff, Lee, and Martin (2008) found that, in the 788 investigations carried out by the SEC and United States Department of Justice from 1978 to 2006, more than 3,000 individuals (two-thirds of whom were firm employees, one-third of whom were top executives of the firms) were charged as the parties responsible for the misconduct. As compared to when there is no governmental probe of the perpetrator, those misconduct events in which there is an ongoing governmental investigation will lend to the perception that individuals are likely to be held responsible for the misconduct. Thus, an ongoing governmental investigation at a perpetrator firm that reveals financial misconduct facilitates attributions of blame, and such agentic attributions thus limit the culpability of the perpetrator firm from being generalized to the industry as a whole.

Hypothesis 4. An ongoing government investigation at the perpetrator firm will influence the negative market evaluations suffered by industry bystander firms relative to non-industry bystander firms such that this negative effect will be weaker when there is an ongoing government investigation at the perpetrator firm.

Factors Affecting the Perceived Instantiation among Industry Bystander Firms

We also theorize that the degree to which any particular industry bystander firm is vulnerable to being perceived by investors as similarly culpable—that is, the degree to which the culpability generalized to the industry category is perceived to be instantiated in any particular industry bystander firm—is affected by industry bystander firm characteristics that either increase investors' familiarity

with such firms or prompt investors' perceptions of strong governance at such firms. Here again familiarity is vital, but now it applies to industry bystander firms. That is, we argue that industry bystander firms that are familiar to investors will be more vulnerable to the contamination as such firms are more readily categorized to the industry and thus perceived as instantiating the generalized culpability.

Perceptions of strong governance at the industry bystander firms, on the other hand, work to lessen such firms' vulnerability to contamination as they evoke agentic attribution processes. As already discussed, organizational observers have a propensity to make agentic attributions when the characteristics or actions of the firm lend to perceptions of strong leadership (Fanelli & Misangyi, 2006; Fanelli et al., 2009) or are distinctive or extreme (e.g., Hayward, Rindova, & Pollock, 2004; Meindl et al., 1985). The typical view in the extant literature is that the basis of these agentic attributions lies in the belief that leaders serve to "effectively isolate firms from the vagaries of the environment" (Chen & Meindl, 1991: 524). In the context of financial misconduct and investor perceptions, characteristics that indicate that there is strong leadership over financial accountability in place at the industry bystander firms are of central importance. Indeed, increasing the accountability of the leadership over the financials of the firm was at the heart of the SOX legislation (e.g., Linck, Netter, & Yang, 2008). We thus argue that industry bystander firms with vigilant boards or with CEOs that are also the chair of the board (i.e., CEO duality) will be less vulnerable to the contamination because these governance characteristics of industry bystander firms will elicit agentic attributional processes and thus inhibit investors from perceiving such firms as fully instantiating the generalized culpability.

See Figure 1 (bottom portion) for a summary of these hypothesized relationships.

Industry bystander firm familiarity. As already noted above, investors rely upon information that is easily available and accessible to them in their valuation processes (Huberman, 2001; Merton, 1987), and such familiarity facilitates categorization (Sherman et al., 1989). Furthermore, prior research on categorization processes has found that one of the primary reasons for the variation in the perceived representativeness of different items in a category is due to differences in the rater's familiarity with those items (e.g., Ashcraft, 1978; Hampton & Gardiner, 1983; Loken & Ward, 1990; Malt &

Smith, 1982). Therefore, when financial misconduct is revealed at one firm in an industry, those industry bystander firms with which investors are familiar will be more readily categorized and thus seen as similarly culpable. In short, those industry bystander firms with which investors are familiar are more likely to be perceived as instantiating the culpability generalized to the industry category than are less familiar industry bystander firms. Formally:

Hypothesis 5. Investors' familiarity with industry bystander firms will influence the negative market evaluation suffered by industry bystander firms such that industry bystander firms with which investors are more familiar will suffer a stronger negative effect than will those industry bystander firms with which investors are less familiar.

Attributions of strong governance: Board vigilance and CEO duality. The board of directors, which has a fiduciary duty to serve as steward for the firm's investors, has long been considered to be "the ultimate center of control" (Mizruchi, 1983: 433) of publicly held corporations (see also Jensen, 1993; Rediker & Seth, 1995). Moreover, there is every indication that investors (and policy makers) see the presence of independent directors—those directors who are not part of management and do not have financial dealings with the firm—as a sign of board vigilance (e.g., Arthaud-Day et al., 2006; Dalton, Hitt, Certo, & Dalton, 2007; Linck et al., 2008; Srinivasan, 2005). That this belief is widespread among practitioners, including the investment community, is clearly evidenced by the independence requirements placed on boards and their audit committees by SOX and the related guidelines of the New York Stock Exchange (NYSE) and NASDAQ (e.g., Linck et al., 2008). Furthermore, although extant empirical evidence on the relationship between board independence and firm performance is equivocal, the belief that the independence of directors signifies vigilant monitoring is held among academics is evidenced by its wide use as a proxy of board vigilance in studies of corporate governance (see Dalton et al., 2007, for a comprehensive review and discussion). In sum, our concern in the current study is with investors' beliefs about the governance in place at industry bystander firms—and it appears that the presence of independent directors will give investors the perception that there is strong governance in place at such firms.

This is important because this particular firm characteristic should therefore elicit agentic attributions among investors; the perception that a vigilant board (i.e., independent directors) is overseeing an industry bystander firm will help to insulate the firm from being perceived as instantiating the culpability generalized to the industry as a whole. Indeed, our argument here is highly consistent with Adut's (2005: 221) prior suggestion that the disruptive effects of scandals are likely when the audience experiences a "steep information asymmetry with the offender's group, and if they are particularly dependent on it." That there is a high degree of information asymmetry and dependence in the relationship between shareholders (i.e., audience) and the top management of firms (i.e., who are either directly or indirectly culpable) is axiomatic for the modern corporation, and, moreover, the presence of a vigilant board is a primary prescription for combating this problem (e.g., Fama & Jensen, 1983). Thus, industry bystander firms with vigilant boards are less vulnerable to being perceived as instantiating the culpability generalized to the industry category than are those industry bystander firms with less vigilant boards.

Hypothesis 6. Vigilant boards at industry bystander firms will influence the negative market evaluation suffered by industry bystander firms such that this negative effect will be weaker for industry bystander firms with more vigilant boards.

CEO duality—when the CEO is also the chair of the board of directors—serves as the most unambiguous indication that the leadership of the CEO is complete (Brickley, Coles, & Jarrell, 1997; Dalton, Daily, Ellstrand, & Johnson, 1998; Finkelstein & D'Aveni, 1994). This accountability of the top manager, including over the financials of the corporation, is of great significance to investors' perceptions in the context of financial misconduct. Indeed, such accountability underlies the CEO/CFO certification requirement of SOX, as it requires that CEOs and CFOs personally certify all periodic reporting filed with the SEC (sections 302(a), 906, SOX). Moreover, the legislation considers the CEO to be completely accountable—that is, this certification is not limited to what the CEO is "aware of" (Morrison & Foerster, 2002).

Given this unequivocal authority and accountability resident in CEO duality, we argue that industry bystander firms with dual CEOs will be perceived by investors as having strong, accountable

leadership, and, hence, CEO duality at an industry bystander firm facilitates agentic attributions that help to isolate the firm from the culpability generalized to the industry category as a whole. Although this proposition runs counter to the conventional agency theory notions of CEO duality, it directly flows from organizational theory (e.g., Dalton et al., 2007; Finkelstein & D'Aveni, 1994). That is, CEO duality is considered to be detrimental to firm performance under the agency theory perspective as it diminishes the "separation of decision management and decision control" deemed to be critical to the board's monitoring function (Fama & Jensen, 1983: 314). Organizational scholars (and even some finance scholars; see Brickley et al., 1997), on the other hand, suggest that CEO duality is both functionally and symbolically beneficial for firms (see Dalton et al., 2007). CEO duality represents the unity of command that affords the CEO the unambiguous authority and decision control considered to be critical for firm success (e.g., Barnard, 1938; Chandler, 1962; Fayol, 1949). More importantly for the current inquiry, CEO duality serves a symbolic role as it confers legitimacy in the eyes of stakeholders who expect strong leadership; duality conveys that "someone is in charge and that the fate of the organization depends upon that person" (Pfeffer & Salancik, 1978: 263). As Finkelstein and D'Aveni (1994: 1100) put it, CEO duality is favored because it "helps ensure the existence of or the illusion of strong leadership."

In sum, while this debate over the merits of CEO duality is far from settled in academia, and the evidence on the relationship between CEO duality and firm performance is equivocal (e.g., Dalton et al., 2007), there is little or no debate as to whether CEO duality is perceived as a sign of the CEO's strong leadership, including among investors. As Dalton et al. (1998: 272) have summed this up, "the joint structure [of CEO duality] provides unified firm leadership and removes any internal or external ambiguity regarding who is responsible for firm processes and outcomes." Furthermore, there is evidence to suggest that investors want a unity of command in the CEO. For example, a survey of pension funds with assets of at least one billion dollars found that such investors favor having a dual CEO (Allan & Widman, 2000). Therefore, CEO duality lends to agentic attributions and thus makes industry bystander firms with dual CEOs less vulnerable to being perceived as instantiating the culpability generalized to the industry category

than are those industry bystander firms with non-dual CEOs.

Hypothesis 7. CEO duality at industry bystander firms will influence the negative market evaluation suffered by industry bystander firms such that this negative effect will be weaker for industry bystander firms that have dual CEOs.

METHODS

Sample and Data Sources

Our sample selection was guided by four overarching issues. First, we drew our financial misconduct events from the Financial Restatement Database compiled by the U.S. GAO, as these restatements represent financial misconduct events (e.g., Arthaud-Day et al., 2006; Harris & Bromiley, 2007). As Harris and Bromiley (2007: 351) suggest, "while the most serious restatements involve criminal fraud, all the restatements examined represent major accounting rules violations that the GAO identified as intentionally improper." Furthermore, the GAO followed a rigorous approach in collecting these restatement events as they identified and coded the date of the first revelation of the impending restatement, and thus these data are especially suited to systematic investigations of the effect that restatements have on investors' valuations (U.S. GAO, 2003).

Second, our hypotheses pertain to investors' perceptions, and thus it had to be plausible that investors will have had awareness of the particular characteristics under study. We therefore chose a time frame and organizational population that should help to ensure the salience among investors of the moderating factors that we examine. With respect to time period, we focus on the restatement events that occurred in 2004 as identified by the GAO (a total of 370 events), as this time period is subsequent to the passage of the Sarbanes–Oxley Act of 2002 and the accompanying requirements of the NYSE and NASDAQ exchanges enacted in 2003 (all referred to as "SOX," hereafter). As already noted, the requirements of SOX put more emphasis on the accountability of the CEO and of the independent directors on the board (e.g., Linck et al., 2008). It is very plausible therefore that the particular governance mechanisms we investigate (i.e., indepen-

dent directors, CEO duality) were salient among investors in this time frame.[5]

Third, salience among investors also played a role in the firms comprising our sample: the bystander firms to each of the restatement events we examine in our study are the S&P 1500 firms in 2004, as data for these firms were readily available to investors. We obtained data for these firms from the Compustat and RiskMetrics databases (in which data were available for 1,202 firms covering 298 four-digit Standard Industrial Classification (SIC) code industries). Thus, we examine the market valuations for all of the S&P 1500 firms in 2004 following each restatement event, and examine whether the valuations of the S&P 1500 firms in the same industry as the restating firm (industry bystander firms) differ from those of the S&P 1500 firms not in the same industry (non-industry bystander firms). Furthermore, while the restatement events come from the GAO database—that is, they are not restricted to the S&P 1500 firms—the perpetrator of some of the events were among the S&P 1500 firms in our sample and thus these particular firms were omitted for these particular events. This focus on the S&P 1500 firms also resulted in our dropping from the sample 51 restatement events in the GAO database in 2004 that occurred in industries with no S&P 1500 firms.

Fourth, as we further detail below, the event study methodology that we utilized requires an examination of a period of "normal" market valuations before the financial misconduct event—a window of time in the particular industry without financial misconduct events—and thus industries for which there was not such a sufficient "normal" period before the first financial restatement event in 2004 were not included in our sample (a total of 154 events/394 firms/29 industries). More specifically, we excluded industries in which there were fewer than 254 days between the last restatement in 2003 and the first restatement event in the industry in 2004 (e.g., Zajac & Westphal, 2004). Additionally, industries in which there were fewer than three firms were also not included (81 events/83 firms/50 industries).

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[5] Our examination of the 2003 fiscal year proxy statements of a sampling of the firms under study helps to corroborate this assumption, as all of the 35 firms (~5%) we examined clearly identified those directors who were independent as well as articulated the proportion of the board that was independent.

Based upon the foregoing criteria and data availability, our final sample consisted of 725 S&P 1500 firms covering 219 industries across 84 financial restatement events in 2004. While all of the data for the 2004 financial restatement events were taken from the GAO Financial Restatement database and Lexis-Nexis database, all financial and firm data were obtained for fiscal year 2003 from the Compustat, Center for Research in Security Prices (CRSP), ExecuComp, and RiskMetrics databases, as well as from the firm's proxy statements and annual reports, as needed.

Dependent Variable

Our dependent variable is the cumulative abnormal returns (CARs) of the sample firms. In brief, the CAR is the sum over the event window of the abnormal daily returns (AR_{jt}) of each particular firm, and abnormal returns on a particular day are constituted by the difference between the actual return of the particular firm's stock and its expected return on that day.

The expected return to a firm's stock is computed using the following market model:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$$

where R_{jt} is the return for firm j on day t; R_{mt} is the market return on day t; β_j is the beta, or systematic risk, of firm j (i.e., market adjusted variance in stock returns for firm j), α_j is the rate of return for firm j when R_{mt} is equal to 0; and ε_{jt} is a serially independent disturbance term ($E(\varepsilon_{jt}) = 0$). These market model parameters α_j and β_j are estimated over a prescribed "normal" period, which is described below.

The abnormal daily return for each firm j for each day t is then calculated as:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt})$$

In essence, this measure calculates the stock returns for a particular firm on a particular day that exceeded the returns that would have been expected based on the recent returns of firms with comparable betas. The CAR aggregates these abnormal returns to the firm over the days in a specified event window.

Previous research on firms announcing financial restatements has examined the CAR over a two-day window (e.g., Palmrose et al., 2004). Extant evidence on financial restatements (e.g., Palmrose et al., 2004) and the announcement of other financial

information (e.g., stock buyback programs; Zajac & Westphal, 2004) also suggest that information leakage may occur, and thus we followed this research in examining the day before the announcement and the day of the announcement as the event period (i.e., our two-day window around the restatement is day −1 and 0). Furthermore, given this potential for pre-event information leakage, we also followed this previous research in using a time window of −254 to −21 days prior to the restatement event as the "normal" period in which the expected value of each firm's stock is estimated. As noted above, this estimation of expected value requires that it be free of restatement events, and thus we used the same normal period for all events in those industries that had more than one restatement event in 2004; that is, we used the period of −254 to −21 days preceding the first restatement in 2004 for such industries.

Finally, we utilized the Eventus program (CRSP database) to estimate the CAR around each of the 84 events in our study using the market-adjusted model based on an equally weighted index with dividends (e.g., Palmrose et al., 2004).

Independent and Moderating Variables

Event industry. To test our baseline hypothesis that the announcement of a financial misconduct will result in a negative valuation of industry bystander firms as compared to those bystander firms not in the event industry, we created an indicator variable that captures, for each restatement, whether bystander firms belong to the same four-digit SIC code industry in which the event occurred (i.e., coded as 1; 0 otherwise).

Perpetrator familiarity. Perpetrator firm familiarity was captured through the size of the perpetrator firm, which was measured by taking the natural log of each perpetrator firm's net sales in 2004 (i.e., in the year of the event). Previous research has shown that familiarity is largely determined by firm size (e.g., Bushee & Miller, 2012; Lehavy & Sloan, 2008). Larger firms employ more people, have more buyers, and more stakeholders generally, which means that information about these firms is more widespread than for smaller firms. Moreover, larger firms have more exposure, given their emphasis among information intermediaries. Larger firms garner more coverage by the media because the availability and ease of access to information about them makes covering them less costly (e.g., Miller, 2006). To test our hypothesis with

respect to perpetrator firm familiarity, we created an interaction term between this measure and the event industry indicator.

Perpetrator employees fired. To determine whether someone was fired for the misconduct at the perpetrator firm, we examined the news coverage (via the Lexis-Nexis database) of the financial restatement event for the week following each event, and used these data to code each restatement event such that, if someone was fired, it was coded as a 1, and 0 otherwise. To test our hypothesis with respect to employees fired, we created an interaction term between this measure and the event industry indicator.

Perpetrator government probe. The GAO Financial Restatement database captured whether there was an ongoing governmental investigation at the misconduct firm, and thus we used these data to create a categorical variable (each restatement event that was under investigation was coded as 1; 0 otherwise). To test our hypothesis with respect to an ongoing government probe, we created an interaction term between this measure and the event industry indicator.

Bystander familiarity. We captured investors' familiarity with bystander firms through the size of such firms. Bystander firm size was measured by taking the natural log of each firm's net sales in 2003. To test our hypothesis with respect to industry bystander firm familiarity, we created an interaction term between this measure and the event industry indicator.

Bystander board vigilance. Following previous research on corporate governance, we captured board vigilance through the proportion of independent directors on each bystander firm's board, calculated by dividing the number of independent directors by the total number of directors on the board. The RiskMetrics database classifies directors as either "executive" (i.e., management), "linked" (i.e., non-management but with a material relationship with the firm), or "independent" (i.e., non-management with no material relationship with the firm), and we used this to obtain the number of independent directors on each firm's board. To test our hypothesis with respect to industry bystander board vigilance, we created an interaction term between this measure and the event industry indicator.

Bystander CEO duality. The CEO duality at each bystander firm in the sample was measured via a categorical variable (i.e., firms with a CEO who was also the chair of the board of directors coded as a 1;

0 otherwise). To test our hypothesis with respect to industry bystander firm CEO duality, we created an interaction term between this measure and the event industry indicator.

Control Variables

We also controlled for several factors that may influence the cumulative abnormal returns to the bystander firms. In particular, we controlled for several characteristics of the bystander firms, of the restatement events, and of the perpetrator firms, as well as for the similarity between the perpetrator and bystander firms on several characteristics.

Bystander characteristics. We included several bystander firm characteristics that may affect investors' categorization processes and market valuations. We captured *bystander ROA* (i.e., return on assets in 2003) as previous research has suggested that this may have an effect on investors' valuations (e.g., Hirshleifer & Teoh, 2003). *Bystander diversification* (i.e., entropy measure of total diversification; Palepu, 1985) was included because previous research has suggested that diversification affects investors' industry categorizations (Vergne, 2012; Zuckerman, 2000). We included measures of *bystander age* and the average firm size in each bystander firm's industry (*bystander industry avg. firm size*) as these factors may also affect investor familiarity with firms. We also included several characteristics that capture the degree of governance at such firms: *board size* (i.e., the number of directors on the board), whether the chair of the board audit committee was an independent director (*audit independent*), *CEO ownership* (i.e., the percentage of the firm's common shares owned by CEO), *director ownership* (i.e., the percentage of shares held by the non-CEO directors), *CEO total pay* (i.e., salary, bonuses, restricted stock grants, and stock options grants), and *CEO incentive pay* (i.e., (total pay − cash pay)/total pay).

Restatement event characteristics. We controlled for several characteristics of the financial restatement event. First, previous research has shown that whether restatements result in upward revisions, downward revisions, or have no impact on earnings may differentially affect the CARs of restating firms (e.g., income increasing, income decreasing, or technical restatements, respectively; Srinivasan, 2005). Consequently, we coded and included two indicator variables representing whether the restatement resulted in *upward revisions* or *no impact* on earnings, thereby making the

intercept those restatements that resulted in downward revisions in earnings.[6] Second, because the perpetrator may time the announcement of the restatement to manage how the information is perceived (i.e., combine it with other announcements versus a special announcement), which can confound the effect of the event that we are examining (e.g., McWilliams & Siegel, 1997), we captured this timing through an indicator variable, *special announcement*, coded as 1 if the perpetrator's announcements of the financial restatements (as collected from the Lexis-Nexis database) was a special one exclusively about the restatement, and 0 otherwise. Third, the effects of financial restatements may differ by the initiator of that restatement (e.g., O'Connor, Priem, Coombs, & Gilley, 2006), and thus, to account for such a possibility, we included three additional indicator variables that capture whether the restatement was initiated by the auditor of the firm (*auditor initiated*), an employee of the firm (*employee initiated*), or by the SEC (*SEC initiated*).

Perpetrator characteristics and the similarity between the perpetrator and bystander firms. We controlled for characteristics of the perpetrator that could potentially affect investors' generalizations of culpability, and, as already noted above, Jonsson et al.'s study (2009) found that exchange partners generalized deviance "across organizational forms with characteristics similar to the deviant organization" (196), and thus we control for the possibility that investors' generalizations to bystander firms may be due to such firm-to-firm similarities. Specifically, we included the following perpetrator characteristics:[7] *perpetrator ROA* (i.e., return on assets in 2003), *perpetrator age*, *perpetrator diversification* (i.e., entropy measure of total diversification; Palepu, 1985), *perpetrator vigilance* (i.e., pro-

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[6] We also tried to capture the extent of these upward/downward revisions as well, but this information was not included in the GAO database and we could only find this information sporadically (we only found it for 39 of the 84 events) and thus could not include this in our analysis. Nevertheless, our capturing and focusing in on income-decreasing events (i.e., this becomes the intercept) is consistent with extant research on restatements. Indeed, some previous research has exclusively focused on this type of restatements (e.g., O'Connor et al., 2006).

[7] Dropping these perpetrator characteristics from the specification yielded results identical to the ones presented in the paper.

portion of independent directors on the board in 2003), and *perpetrator CEO duality* (i.e., CEO duality in 2003 = 1; 0 otherwise). We controlled for the average firm size in each perpetrator firm's industry (*perpetrator industry avg. firm size*) as this may also affect investors' familiarity. We controlled for the match between the perpetrator and the bystander firms for each of these characteristics. The matches with respect to firm performance (*match ROA*), firm age (*match age*), firm diversification (*match diversification*), and board vigilance (*match board vigilance*) were captured by taking the absolute difference on each of these measures between the perpetrator and bystander firms. Thus, the smaller the difference, the more similar the bystander firms are to the perpetrator on these measures. The match in CEO duality (*match CEO duality*) was captured by an indicator variable, coded as 1 if the bystander firm's CEO duality is the same as the perpetrator's CEO duality, and 0 otherwise.

Analytical Technique

We conducted an event study that utilized multiple regression analysis (e.g., Barnett & King, 2008; McWilliams & Siegel, 1997; Zajac & Westphal, 2004). Specifically, we used the following regression equations to test our hypotheses:

$$CAR_{ij} = \alpha + \beta_1 Z_{ij} + \beta_2 X_{1ij} + e_{ij} \qquad (1)$$

$$CAR_{ij} = \alpha + \beta_1 Z_{ij} + \beta_2 X_{1ij} + \beta_3 X_{2ij} + e_{ij} \qquad (2)$$

$$CAR_{ij} = \alpha + \beta_1 Z_{ij} + \beta_2 X_{1ij} + \beta_3 X_{2ij} + \beta_4 X_{3ij} + e_{ij} \qquad (3)$$

where CAR_{ij} is the cumulative abnormal return for firm i for the two days surrounding the restatement event j, Z_{ij} is the vector of control variables, X_{1ij} is the vector of bystander and perpetrator firm characteristics under investigation, X_{2ij} is the event industry indicator, X_{3ij} is the vector of interaction terms, and e_{ij} is the residual. Thus, while Equation 1 estimates the effect of the control variables on the bystander firm's CAR, Equation 2 tests the main effect (Hypothesis 1), and Equation 3 tests the moderator hypotheses (Hypothesis 2-Hypothesis 7). We examined the moderating effects both by estimating Equation 3 for each moderator variable individually as well as an overall modeling that included all interaction terms. We do not include fixed effects (i.e., year, firm, industry, or event) in our analyses, as the inclusion of firm and event fixed effects would have precluded us from testing

our moderating hypotheses (which involve either firm or event characteristics). We could also not include industry fixed effects, as those fixed effects would be collinear with the event characteristics for the industries with only one event. Year effects are not relevant, given that all of our events occur in 2004. Because each firm appears multiple times in the data—once per each event—we estimated robust standard errors based on the firm.

Finally, we follow the recent literature in interpreting the interaction effects (e.g., Brambor, Clark, & Golder, 2006; King, Tomz, & Wittenberg, 2000). That is, all of the hypothesized interaction effects involve two variables, and thus this literature suggests that the slope of the marginal effects of one variable (i.e., main variable) at different values of the other variable (i.e., moderator variable) needs to be examined to see if, in fact, there is an interaction of the two variables at that point of the moderating variable. The interaction effect is deemed to hold at those values of the moderator variable where the slope of the main variable is significantly different from zero. Furthermore, we followed the Johnson–Neyman technique to identify the regions of the moderator variable values in which the interaction is significant (e.g., Preacher, Curran, & Bauer, 2006). In short, we employ these "marginal" analytical techniques to appropriately interpret all of our interaction effects.

RESULTS

Table 1 reports the descriptive statistics and simple bivariate correlations.

Table 2 reports the results of the hypotheses tests. Model 1 reports the results with only the control variables (i.e., Equation 1, above), Model 2 reports the results of the baseline hypothesis (i.e., Equation 2), and Models 3 to 9 report the results of our moderating hypotheses (i.e., Equation 3).

Hypothesis 1 concerns whether the revelation of financial misconduct at one firm more negatively affects the market valuations of bystander firms in the same industry as the perpetrator ("industry bystander firms," hereafter) than those of bystander firms not in the same industry as the perpetrator ("non-industry bystanders," hereafter). As Model 2 shows, the coefficient for the event industry indicator is negative and significant ($\beta = -0.266$; $p = 0.011$). The intercept in this model represents the non-industry bystander firms, and is not significant—the revelation of misconduct has no effect on non-industry bystander firms. These results show

TABLE 1
Descriptive Statistics and Simple Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CAR	0.17	2.66															
2. Perpetrator ROA	−0.14	0.94	−.02														
3. Perpetrator age	3.32	0.92	.01	.26													
4. Perpetrator diversification	0.34	0.42	.01	.10	.08												
5. Perpetrator CEO duality	0.52	0.50	−.01	−.11	−.03	.25											
6. Perpetrator board vigilance	0.69	0.18	.02	.20	.27	.22	.25										
7. Perpetrator industry avg. size	7.44	1.73	.01	.20	.30	.08	−.13	.24									
8. Match ROA	0.23	0.94	.02	−.99	−.26	−.11	.10	−.20	−.19								
9. Match size	3.16	2.56	.00	−.23	−.07	−.03	−.02	−.06	.08	.24							
10. Match age	1.16	0.81	.02	−.18	−.40	−.04	.02	−.06	−.13	.18	.09						
11. Match diversification	0.46	0.41	−.01	.02	.03	.32	.09	.03	.01	−.03	.02	.05					
12. Match CEO duality	0.51	0.50	.01	−.04	−.01	.08	.34	.08	−.04	.03	−.01	.01	.01				
13. Match board vigilance	0.19	0.15	−.01	−.19	−.20	−.13	−.16	−.79	−.19	.18	.06	.07	.02	−.07			
14. Upward revision	0.14	0.34	.01	.05	.03	.00	.02	.10	.08	−.06	−.05	.00	−.03	.01	−.10		
15. No impact	0.24	0.42	.00	.07	−.02	−.03	−.05	−.02	−.01	−.06	.05	−.01	−.03	−.02	.00	−.22	
16. Special announcement	0.57	0.50	.00	−.08	.03	−.11	−.09	−.08	.07	.07	.04	−.01	−.05	−.03	.09	−.24	.01
17. Auditor initiated	0.14	0.34	−.01	.06	−.11	−.20	.09	.03	.22	−.06	.03	.01	−.07	.03	−.04	−.05	.12
18. Employee initiated	0.01	0.11	.01	.02	.15	−.09	−.12	.13	.04	−.02	−.08	−.04	−.02	−.04	−.07	−.04	−.06
19. SEC initiated	0.05	0.22	−.01	.04	.15	.25	.22	.10	.12	−.04	−.07	−.07	.12	.07	−.07	−.09	.01
20. Bystander board size	8.72	2.48	−.01	.00	.00	.00	.00	.00	.00	.00	−.02	.08	.13	.13	.00	.04	.00
21. Bystander audit chair	0.81	0.39	.01	.00	.00	.00	.00	.00	.00	.00	.03	.06	.02	.00	.03	.00	.00
22. Bystander CEO ownership	0.03	0.07	.00	.00	.00	.00	.00	.00	.00	.00	−.02	−.04	−.04	.00	−.02	.00	.00
23. Bystander director ownership	0.06	0.13	.00	.00	.00	.00	.00	.00	.00	.00	−.01	−.03	−.02	−.01	−.02	.00	.00
24. Bystander CEO incentive pay	0.50	0.27	.00	.00	.00	.00	.00	.00	.00	.00	.05	.03	.03	.00	.02	.00	.00
25. Bystander CEO total pay	7.96	1.17	.00	.00	.00	.00	.00	.00	.00	.00	.11	.06	.07	.01	.02	.00	.00
26. Bystander performance	0.04	0.10	.01	.00	.00	.00	.00	.00	.00	−.03	−.02	.00	.00	.00	−.01	.00	.00
27. Bystander age	3.86	0.92	−.02	.00	.00	.00	.00	.00	.00	−.01	.03	.15	.11	.00	.02	.00	.00
28. Bystander diversification	0.38	0.44	−.02	.00	.00	.00	.00	.00	.00	−.01	.04	.10	.46	.01	.02	.00	.00
29. Bystander industry avg. size	7.57	1.58	.00	.00	.00	.00	.00	.00	.00	−.01	.09	.07	.07	.00	.02	.00	.00
30. Bystander board vigilance	0.69	0.15	−.01	.00	.00	.00	.00	.00	.00	.00	.02	.09	.03	.01	.07	.00	.00
31. Bystander CEO duality	0.67	0.47	−.01	.00	.00	.00	.00	.00	.00	.00	.03	.06	.06	.03	.01	.00	.00
32. Bystander age	7.53	1.56	.00	.00	.00	.00	.00	.00	.00	−.02	.14	.13	.11	.01	.03	.00	.00
33. Perpetrator firm size	7.14	3.74	.00	.28	.37	.30	.07	.41	.28	−.29	.31	−.15	.06	.02	−.33	.12	−.04
34. Govt. probe of perpetrator	0.06	0.24	−.01	.04	.07	.24	.04	.11	.15	−.04	−.03	−.02	.10	.01	−.10	−.10	−.02
35. Employees fired at perpetrator	0.09	0.28	.00	.04	.19	.12	.03	.17	−.04	−.04	−.15	−.08	.05	.01	−.12	−.12	−.07
36. Industry bystander	0.01	0.10	−.01	.01	.03	−.01	.01	.04	.02	−.01	−.01	−.03	−.02	.01	−.04	.01	.00

Note: n = 58,157. All correlations above |.01| are significant at *p* < .05 level.

that, after accounting for all the control variables, the effect on an industry bystander firm is −0.266. This implies that, when a financial restatement occurs, the industry bystander firms suffer a loss of 0.27% (or, to be more precise, industry bystander firms suffer a loss of 0.27% as compared to the non-industry bystander firms, as the latter suffer no effect of the event, as shown by the non-significant intercept). While the effect size is small (e.g., Cohen, 1992), the magnitude is similar to other studies that have examined CAR of bystander firms. For example, Barnett and King (2008) found that, following an industrial accident, industry firms suffered an average loss of 0.30%. Thus, Hypothesis 1 is supported.

Models 3–5 of Table 2 then report the results with respect to the factors that may affect the potency of generalization. Hypothesis 2 predicted that perpetrator firm size increases the negative indus-

try category effect, and thus that the interaction between perpetrator size and the event industry indicator will be negative. As Model 3 shows, the interaction coefficient is negative and significant ($\beta = -0.088$; $p = 0.00$). We further examined this interaction through the marginal effect significance techniques described above, and found that the negative effect on industry bystander firms, as compared to non- industry bystander firms, is significant when the perpetrator's size is larger than 6.95 (net sales of $1,043 million); put another way, there is no CAR difference between industry bystander firms and non-industry bystander firms when the perpetrator firm's sales are roughly $1 billion or less. Further, our marginal effects analyses showed that industry bystander firms suffered an additional 0.40% decline in CAR, compared to non-industry bystander firms, when perpetrator firm size was 8.0 (or approximately $3 billion in net

TABLE 1
(continued)

Variable	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
17. Auditor initiated	.05																			
18. Employee initiated	.10	−.04																		
19. SEC initiated	.08	−.09	−.03																	
20. Bystander board size	.00	.00	.00	.00																
21. Bystander audit chair	.00	.00	.00	.00	.19															
22. Bystander CEO ownership	.00	.00	.00	.00	−.19	−.14														
23. Bystander director ownership	.00	.00	.00	.00	−.04	−.10	.17													
24. Bystander CEO incentive pay	.00	.00	.00	.00	.13	.03	−.19	−.11												
25. Bystander CEO total pay	.00	.00	.00	.00	.29	.11	−.17	−.08	.58											
26. Bystander performance	.00	.00	.00	.00	.11	−.02	.07	.06	−.01	.16										
27. Bystander age	.00	.00	.00	.00	.26	.10	−.06	.02	.00	.12	.09									
28. Bystander diversification	.00	.00	.00	.00	.27	.06	−.11	−.06	.04	.13	−.03	.23								
29. Bystander industry avg. size	.00	.00	.00	.00	.24	.10	−.07	−.04	.09	.27	.01	.16	.13							
30. Bystander board vigilance	.00	.00	.00	.00	.14	.29	−.26	−.33	.19	.16	−.06	.10	.10	.09						
31. Bystander CEO duality	.00	.00	.00	.00	.09	.07	.10	−.16	.07	.16	.03	.07	.14	.06	.18					
32. Bystander age	.00	.00	.00	.00	.52	.16	−.15	−.09	.24	.56	.19	.26	.22	.52	.15	.15				
33. Perpetrator firm size	.15	.11	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
34. Govt. probe of perpetrator	.12	−.10	−.03	.65	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05		
35. Employees fired at perpetrator	.18	−.12	−.03	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	−.02	.29	
36. Industry bystander	.00	.00	.03	.00	.01	.01	−.01	−.02	−.01	−.01	−.02	−.02	.00	.01	.02	.01	.00	.01	.00	.00

sales)—and, for perpetrator firm size of 9.0 ($8 billion in net sales), there was an additional decline of 0.64% in CAR. Thus, Hypothesis 2 is supported.

Hypothesis 3 predicted that employee firings for the misconduct at the perpetrator firm lessen the negative industry category effect. As Model 4 shows, the interaction between perpetrator employees fired and the event industry indicator was not significant ($\beta = 0.383$; $p = 0.254$). Thus, Hypothesis 3 is not supported.

Hypothesis 4 predicted that the presence of an ongoing governmental probe of the perpetrator's misconduct would lessen the potency of the generalization of culpability—which would be supported by a positive interaction term. Model 5 shows that the interaction between perpetrator government probe and the event industry indicator is positive as hypothesized, though it is only significant based on a one-tailed test ($\beta = 0.660$; $p = 0.092$). The marginal effects analyses found, however, that the negative effect of being in the same industry as the event firm is only significant when there is no government probe of the perpetrator ($\beta = -0.309$; $p = 0.003$); when there is an ongoing government probe of the perpetrator, there is no significant difference in CAR between industry bystander firms and non-industry bystander firms ($\beta = 0.353$; $p = 0.37$). In other words, industry bystander firms to misconduct events that are accompanied by an ongoing government probe do not suffer a discount in their CAR, relative to non-industry bystander firms, but industry bystander

firms to misconduct events that are not being probed suffer an additional decline in CAR of 0.31%. Thus, Hypothesis 4 is supported.

Models 6 to 8 report the results pertaining to the characteristics of industry bystander firms. Hypothesis 5 predicted that more familiar industry bystander firms would suffer more negative valuations than will less familiar industry bystander firms. Model 6 shows that the interaction between the event industry indicator and bystander firm size is negative and significant ($\beta = -0.244$; $p = 0.017$). Further examining this interaction using the marginal effect techniques showed a significant difference between industry bystander firms and non-industry bystander firms only when firm size is greater than 7.28 ($1,450 million in net sales). That is, compared to non-industry bystander firms, industry bystander firms have a steeper decline in their CAR with increasing firm size only when the firms have net sales greater than $1,450 million. Furthermore, the marginal effect analyses showed that the relationship between firm size and CAR for non-industry bystander firms is not significant ($\beta = 0.007$; $p = 0.60$), whereas this relationship is significant for industry bystander firms ($\beta = -0.236$; $p = 0.018$). An increase in industry bystander firm size by one standard deviation from the mean value leads to an additional decrease in CAR by 0.38% (at mean value of industry bystander firm size, CAR decreases by 0.27%; at mean plus one standard deviation value of industry bystander firm size, CAR decreases by 0.65%). In sum, these results suggest that

TABLE 2
Results of Multivariate Regression on Cumulative Abnormal Returns

	1	2	3	4	5	6	7	8	9
Perpetrator ROA	-0.103	-0.107	-0.108	-0.107	-0.107	-0.112	-0.109	-0.107	-0.115
	(0.142)	(0.143)	(0.143)	(0.143)	(0.143)	(0.140)	(0.143)	(0.143)	(0.139)
Perpetrator age	0.044*	0.045*	0.045*	0.045*	0.045*	0.045*	0.045*	0.044*	0.046*
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Perpetrator diversification	0.079*	0.079*	0.077*	0.078*	0.078*	0.079*	0.078*	0.079*	0.078*
	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)
Perpetrator CEO duality	-0.096**	-0.095**	-.094**	-0.095**	-.095**	-.095**	-.094**	-0.095**	-.095**
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Perpetrator board vigilance	0.564**	0.564**	0.561**	0.565**	0.566**	0.565**	0.564**	0.564**	0.565**
	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)
Perpetrator industry avg. firm size	0.007	0.007	0.007	0.007	0.007	0.008	0.007	0.007	0.008
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Match ROA	-0.041	-0.044	-0.046	-0.045	-0.045	-0.050	-0.047	-0.044	-0.052
	(0.144)	(0.145)	(0.145)	(0.145)	(0.145)	(0.142)	(0.145)	(0.145)	(0.141)
Match size	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Match age	0.088**	0.087**	0.088**	0.087**	0.087**	0.088**	0.087**	0.087**	0.088**
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Match diversification	-0.030	-0.032	-0.031	-0.032	-0.031	-0.032	-0.031	-0.031	-0.031
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Match CEO duality	0.053*	0.053*	0.054*	0.053*	0.053*	0.053*	0.053*	0.053*	0.053*
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Match board vigilance	0.226	0.220	0.219	0.219	0.220	0.221	0.219	0.221	0.220
	(0.139)	(0.139)	(0.139)	(0.139)	(0.139)	(0.139)	(0.139)	(0.139)	(0.139)
Upward revision	0.044	0.045	0.046	0.045	0.045	0.047	0.045	0.045	0.047
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
No impact	0.010	0.011	0.011	0.010	0.010	0.012	0.011	0.010	0.010
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Special announcement	0.007	0.007	0.007	0.008	0.007	0.008	0.008	0.007	0.008
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Auditor initiated	-0.036	-0.037	-0.037	-0.037	-0.037	-0.037	-0.037	-0.036	-0.037
	(0.038)	(0.038)	(0.037)	(0.038)	(0.038)	(0.037)	(0.038)	(0.038)	(0.037)
Employee initiated	-0.001	0.005	0.004	0.005	0.006	0.009	0.008	0.004	0.009
	(0.099)	(0.100)	(0.100)	(0.100)	(0.100)	(0.099)	(0.100)	(0.100)	(0.099)
SEC initiated	-0.097+	-0.098+	-0.099+	-0.100+	-0.099+	-0.097+	-0.098+	-0.098+	-0.099+
	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)
Bystander board size	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Bystander audit chair	0.084*	0.085*	0.085*	0.085*	0.085*	0.086*	0.084*	0.085*	0.086*
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
Bystander CEO ownership	-0.023	-0.026	-0.031	-0.026	-0.026	-0.028	-0.025	-0.025	-0.028
	(0.165)	(0.164)	(0.164)	(0.164)	(0.164)	(0.164)	(0.164)	(0.164)	(0.163)
Bystander director ownership	-0.186+	-0.189+	-0.189+	-0.188+	-0.189+	-0.189+	-0.188+	-0.189+	-0.189+
	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)	(0.111)
Bystander CEO incentive pay	0.049	0.047	0.046	0.048	0.048	0.047	0.046	0.047	0.046
	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)
Bystander CEO total pay	0.005	0.005	0.004	0.005	0.005	0.005	0.005	0.005	0.005
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Bystander ROA	0.224	0.218	0.221	0.218	0.219	0.225	0.217	0.219	0.229
	(0.186)	(0.186)	(0.186)	(0.186)	(0.187)	(0.190)	(0.187)	(0.186)	(0.191)

TABLE 2
(continued)

	1	2	3	4	5	6	7	8	9
Bystander age	−0.041* (0.017)	−0.041* (0.017)	−0.041* (0.017)	−0.041* (0.017)	−0.041* (0.017)	−0.041* (0.017)	−0.041* (0.017)	−0.041* (0.017)	−0.041* (0.017)
Bystander diversification	−0.112** (0.036)	−0.112** (0.036)	−0.112** (0.036)	−0.113** (0.036)	−.113** (0.036)	−.112** (0.036)	−.113** (0.036)	−0.113** (0.036)	−.113** (0.036)
Bystander industry avg. firm size	0.007 (0.011)	0.008 (0.011)	0.008 (0.011)	0.008 (0.011)	0.008 (0.011)	0.007 (0.011)	0.008 (0.011)	0.008 (0.011)	0.007 (0.011)
Theoretical variables of interest									
Bystander board vigilance	−0.263* (0.107)	−0.259* (0.107)	−0.257* (0.107)	−0.259* (0.107)	−0.259* (0.108)	−0.258* (0.107)	−0.246* (0.107)	−0.257* (0.108)	−0.247* (0.107)
Bystander duality	−0.042 (0.032)	−0.041 (0.032)	−0.041 (0.032)	−0.041 (0.032)	−0.041 (0.032)	−0.041 (0.032)	−0.041 (0.032)	−0.045 (0.032)	−0.047 (0.032)
Bystander size	0.0004 (0.014)	0.0002 (0.014)	0.001 (0.014)	0.0002 (0.014)	0.0001 (0.014)	0.003 (0.014)	0.0005 (0.014)	0.0001 (0.014)	0.003 (0.014)
Perpetrator firm size	−0.005 (0.006)	−0.005 (0.006)	−0.004 (0.006)	−0.005 (0.006)	−0.005 (0.006)	−0.005 (0.006)	−0.005 (0.006)	−0.005 (0.006)	−0.004 (0.006)
Perpetrator govt. probe	−0.056 (0.059)	−0.055 (0.059)	−0.055 (0.059)	−0.055 (0.059)	−0.062 (0.059)	−0.055 (0.059)	−0.055 (0.059)	−0.055 (0.059)	−0.062 (0.059)
Perpetrator employees fired	−0.008 (0.049)	−0.009 (0.049)	−0.008 (0.049)	−0.013 (0.049)	−0.011 (0.049)	−0.010 (0.049)	−0.010 (0.049)	−0.009 (0.049)	−0.011 (0.049)
Event industry	−0.266* (0.104)	−0.266* (0.104)	0.408+ (0.216)	−0.298** (0.114)	−.312** (0.103)	1.553+ (0.807)	0.819 (0.563)	−0.590** (0.178)	1.918* (0.858)
Factors affecting potency of generalization									
Event industry* Perpetrator size			−0.089** (0.024)						−0.065* (0.028)
Event industry* Perpetrator employees fired				0.383 (0.335)					0.092 (0.433)
Event industry* Perpetrator govt. probe					0.660+ (0.393)				0.663 (0.509)
Factors affecting vulnerability of instantiation									
Event industry* Bystander size						−0.244* (0.102)			−0.235* (0.112)
Event industry* Bystander board vigilance							−1.496* (0.721)		−0.638 (0.653)
Event industry* Bystander CEO duality								0.448* (0.215)	0.653** (0.242)
_cons	−0.204 (0.164)	−0.202 (0.164)	−0.215 (0.164)	−0.202 (0.164)	−0.202 (0.164)	−0.230 (0.164)	−0.215 (0.164)	−0.200 (0.164)	−0.240 (0.165)
R^2	0.0033	0.0034	0.0036	0.0035	0.0035	0.0037	0.0035	0.0035	0.0040
Model p-value	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.100

Note: $n = 58{,}157$. Robust standard errors based on clustering firm observations. CARs in percentages.

+ $p < 0.1$
* $p < 0.05$
** $p < 0.01$, two-tailed test

larger industry bystander firms suffered a more negative CAR than did smaller industry bystander firms. Thus, Hypothesis 5 is supported.

Model 7 reports the results for Hypothesis 6, which predicted that those industry bystander firms with a vigilant board would be less vulnerable to being perceived as instantiating the generalized culpability than will industry bystander firms with less vigilant boards. As shown in Model 7, however, the coefficient is negative and significant ($\beta = -1.496$; $p = 0.038$). Since this effect is in the opposite direction than what was predicted, Hypothesis 6 is not supported.

Model 8 reports the results for the hypothesis pertaining to industry bystander firm CEO duality. Industry bystander firms with dual CEOs were hypothesized to be less vulnerable to being perceived as instantiating the generalized culpability, as compared to industry bystander firms with non-dual CEOs (Hypothesis 7), and, as Model 8 shows, the interaction between the event industry indicator and bystander CEO duality is positive and significant ($\beta = 0.448$; $p = 0.039$). Furthermore, the marginal effect analyses showed that, when there is a dual CEO, there is no difference in CAR between industry bystander firms and non-industry bystander firms ($\beta = -0.140$; $p = 0.26$), yet there is a significant decline in CAR for industry bystander firms, as compared to non-industry bystander firms, when there is a non-dual CEO ($\beta = -0.587$; $p = 0.001$). Additionally, the marginal effect analyses suggest that, among non-industry bystander firms, the effect of CEO duality on CAR is not significant ($\beta = -0.046$; $p = 0.160$), while it is positive and significant among industry bystander firms ($\beta = 0.401$; $p = 0.062$). These results therefore imply that industry bystander firms with CEO duality enjoyed a less negative CAR than did those industry bystander firms without CEO duality (the latter suffered an additional 0.40% decline in CAR). Thus, these results support Hypothesis 7.

Model 9 includes all of the interaction terms in the same model specification. However, a variance inflation factor (VIF) analysis indicated that multicollinearity was present in this model specification: the highest VIF was 82.53 (well above the accepted norm), and, for five factors, the VIF was greater than 26. Thus, we hesitate to interpret the results of the full model.

Robustness Checks

We also performed three separate robustness tests in an attempt to rule out alternative explanations, to account for the nature of the different types of restatements, and to examine the duration of the contamination. First, a potential alternative explanation for our main effect is that, rather than investors generalizing the culpability, as we hypothesized, they may simply be revising their valuations because they believe that firms in the industry were either previously overvalued (i.e., in the case of downward revision restatements) or undervalued (in the case of an upward revision restatements). To investigate this issue, we reran our main effect analysis on the subsample consisting of only those events that resulted in no impact/upward revision restatements. The event industry indicator was negative and significant ($\beta = -0.451$, $p < .001$), implying that the industry bystander firms were more negatively valued as compared to non-industry bystander firms when financial restatements involved an upward revision or no impact. This finding runs counter to what would be expected if the alternative explanation were to hold—that is, there would be a positive effect—and thus provides further support for Hypothesis 1.

Second, given that previous research on restatements has shown that there are differences in the effects that voluntary and forced events have on investors' valuations of misconduct firms themselves (e.g., Akhigbe et al., 2005), we wanted to see if the contamination we found here varies across such events. We reran our analyses on the subsample of restatements that were forced upon the perpetrator and those that were made voluntarily by the perpetrator. The results of these analyses show that, when restatements are voluntary, all of our main findings are replicated, except for in the case of government probe. Yet, when restatements are forced, there is no main effect—industry bystander valuations are not significantly different following a restatement event from those of non-industry bystanders. These findings are thus consistent with our theoretical argument that when attributions of blame are prompted—which forced restatements inherently involve—this will lessen the contamination.

Finally, prior studies on firm errors examining the CAR of bystander firms have used a five-day window (e.g., industrial accidents; Barnett & King, 2008), and thus we also examined this longer time frame. We did not find any significant theorized effects. This implies, then, that the effects of the contamination on industry bystander firms following the announcement of financial misconduct are relatively short lived. Our findings are thus consistent with previous research on investors' reactions toward perpetrator

firms themselves, which also has found such short-lived effects (Palmrose et al., 2004).

DISCUSSION

Previous research has suggested that investors' cognitions and emotions play a critical role in the functioning of financial markets, and has had a particular focus on investor confidence and irrational exuberance. There has been limited research on investors' perceptions of financial misconduct, and this research has focused upon the subsequent valuations of the misconduct firms themselves. Little is known therefore about whether or how financial misconduct affects investors' perceptions of other firms not involved in the misconduct, and, moreover, about whether factors may work to moderate such investors' perceptions. In the current study, we integrated the insights of extant research that has taken a social view of financial markets (e.g., Zuckerman, 1999, 2000, 2004) with those from recent research on how scandals may affect third parties (Adut, 2005; Jonsson et al., 2009) to suggest that, when financial misconduct is revealed to have occurred at one firm, a contamination process ensues within the misconduct firm's industry, and that this contamination may affect the industry bystander firms in a heterogeneous manner. That is, we suggest that this contamination follows a generalization–instantiation process whereby investors' generalize the culpability of the perpetrator to the industry category, as well as have perceptions with respect to the degree to which the generalized culpability is instantiated in industry bystander firms. Although these two aspects of the contamination process occur simultaneously, this conceptualization allowed us to examine whether the strength of the generalizations of culpability vary based upon the particular characteristics of the perpetrator or the misconduct event, and whether certain characteristics of the industry bystander firms enhance or mitigate their perceived instantiation of the generalized culpability.

Our findings are overall supportive that such a heterogeneous contamination occurs upon the revelation of financial misconduct by one firm. First, we hypothesized that bystander firms in the industry of the misconduct firm will be more negatively evaluated by investors than will be bystander firms that do not belong to the industry category following the announcement of financial misconduct. Our results clearly support this notion, as we found that the CAR of industry bystander firms declined 0.27% following the announcement of a financial restatement by another firm in their industry, while there was no significant main effect on the bystander firms that were outside the misconduct event industry.

Second, our hypotheses that particular characteristics of the perpetrator firm or misconduct event will influence the potency of the generalization of culpability to the industry category were also generally supported. In particular, the results show that investors' familiarity with the perpetrator firms—as captured by the perpetrator firm's size—makes the generalization of culpability more potent. The negative valuations of industry bystander firms relative to non-industry bystander firms were stronger when perpetrator firms were larger: while there was no CAR difference between industry bystander firms and non-industry bystander firms when the perpetrator firm's sales was roughly $1 billion or less, the CAR of industry bystander firms suffered considerably as the size of the perpetrators increased above this size. When perpetrator firms had approximately $3 billion in net sales, industry bystander firms CAR declined by an additional (i.e., beyond the main effect) 0.40%, relative to non-industry bystander firms; for perpetrators with around $8 billion in net sales, the decline in CAR of industry bystander firms was 0.64%.

We also hypothesized that characteristics of the misconduct event that afford ascriptions of blame will give rise to agentic perceptions—when characteristics of the event lend to investors attributing firm actions and outcomes to the social actors themselves, rather than to the larger social system or environment, the potency of the generalizations of culpability is more limited. While such an effect was not found when employees of the perpetrator firm were fired for the misconduct, our findings do suggest that, when perpetrators were the subject of an ongoing government investigation at the time the misconduct was revealed, this mitigated the negative category effect: the results show that the CAR of industry bystander firms to a misconduct event involving an ongoing government probe were not different from the CAR of non-industry bystander firms, whereas industry bystander firms to misconduct events that were not being probed suffered an additional 0.31% decline in their CAR, relative to non-industry bystander firms.

Third, our findings also suggest that certain characteristics of the industry bystander firms can influence whether the culpability generalized to the industry category is heterogeneously instantiated among the industry bystander firms. In particular,

we found that industry bystander firms with which investors were familiar were more negatively valued: larger industry bystander firms suffered an additional discount in CAR than did smaller industry bystander firms following the announcement of financial misconduct by another firm in the industry. In particular, the CAR of industry bystander firms declined an additional 0.38% for industry bystander firms with size one standard deviation above the mean. Furthermore, we argued that industry bystander firms that exhibit indications of strong governance will stimulate agentic attributions among investors, and thereby lessen their contamination. We thus predicted that those industry bystander firms with CEOs who are also the chair of the board (i.e., CEO duality), given this places ultimate accountability on the CEO, and those with vigilant boards, given that this also signifies strong governance, would be less vulnerable to being perceived as instantiating the generalized culpability. Our results for CEO duality were as hypothesized: industry bystander firms with CEO duality enjoyed a less negative CAR than did such firms without CEO duality (the latter suffered an additional 0.40% decline in CAR).

The effect of board vigilance, however, was in the opposite direction than what we hypothesized. Our results suggest that those industry bystander firms with a higher proportion of independent directors on their boards actually suffered a more negative valuation. One possible explanation for this result with respect to independent directors may lie in the particular context of our current inquiry. Although the independence of directors has long been considered to be a sign of board vigilance, the requirements of the SOX legislation (including the NYSE and NASDAQ exchange requirements enacted in late 2003) increased the personal liability and accountability of independent directors for the firm's financial reporting (see Linck et al., 2008). Since these requirements essentially began in 2004—the year of our study—it is possible that investors at that point may have worried that this increased accountability may actually work to increase the likelihood that past financial transgressions at industry bystander firms would soon also come to light. In other words, it may be that investors believed that this recent change in accountability increased the likelihood of restatements among industry bystander firms—that such agency would be used at that point to clear any "skeletons from the closet."

Implications for Future Research

Our study and its findings have implications for future research on investor valuations, corporate governance, and organizational misconduct. Foremost is that what we have posited and found here contributes to a social view of financial markets in several ways. First, while some previous research has shown that firm "errors" (i.e., product recalls, industrial accidents; Barnett & King, 2008) at one firm may also affect valuations of other firms in the same industry category, little attention has been paid to date as to how the misdeeds of one firm affect investors' valuations of other firms (for an exception, see Xu et al., 2006). Yet, our study clearly suggests that, when it comes to financial wrongdoing, investors' cognitive processes spread the guilt of the misconduct firm to the industry category. Given that accounting misconduct is just one among a host of potential forms of organizational misconduct, future research that further develops an understanding of the range of actions that may affect investors' valuations, or the evaluations of other stakeholders for that matter, is more than warranted. Moreover, our findings are suggestive that future research can move beyond the presumption that investors' valuations of bystander firms are simply a function of worries over the future regulatory impact of the studied events (e.g., Barnett & King, 2008; Xu et al., 2006).

A second major implication of our findings for research on investor perceptions is that the dualism of social structure and human agency are simultaneously at play in investors' cognitive processes. This is important because, on the one hand, while our study provides further evidence that a social categorization guides investors' valuations (e.g., Zuckerman, 2012), our findings also are suggestive, on the other hand, that certain characteristics of firms and their leadership may lead investors to make more agentic attributions of firms. While previous research has suggested that agentic attributional processes operate among the business press (e.g., Chen & Meindl, 1991; Meindl et al., 1985) or among securities analysts (Fanelli et al., 2009), our study suggests that they also apply to investors. In short, the propensity to make individualistic attributions appears to be a countervailing force to the "categorical imperative" that guides investors' valuations of firms. Whether this duality in perceptions between social structure and human agency applies to other types of investor perceptions beyond generalizations of culpability is clearly an

important question for future research. Indeed, although our focus has been on rather illicit or "negative" behaviors, an interesting question to pose is whether this dualism operates on investor perceptions when more "positive" judgments are involved. For instance, is it that more desirable characteristics or behaviors—such as CEO charisma (e.g., Fanelli & Misangyi, 2006) or firm innovativeness (e.g., Nerkar & Paruchuri, 2005; Paruchuri, 2010)—only work to elicit agentic attributions, and thus not lend to investors' (more positive) generalizations to such firms' industry categories? For that matter, are there events or actions that would garner a positive evaluation by investors that gets generalized from that firm to the other firms in the same industry, and thus increase the valuations of the industry as a whole? Another interesting research question to pose is if and how these investor generalization processes occur in the context of events that are not readily characterized as either negative or positive but depend on the context, such as mergers and acquisitions (e.g., Paruchuri, Nerkar, & Hambrick, 2006; Paruchuri & Eisenman, 2012) or diversification actions (e.g., Lee & Paruchuri, 2010).

Third, our findings with respect to firm familiarity contributes to the growing evidence that suggests that, rather than being optimal maximizers of information, as presumed in conventional economic accounts of financial markets, investors tend to rely upon easily accessible information in their valuation processes (e.g., Hirshleifer & Teoh, 2003). While we have focused upon one sure characteristic that leads to investor familiarity in the current study—firm size—future research that investigates other means by which familiarity may be manifested is also warranted. For example, while factors such as media exposure may enhance investors' familiarity with firms, recent research has also suggested that a firm's investor relations program may lead to greater familiarity among investors (e.g., Bushee & Miller, 2012). In any case, an interesting and somewhat paradoxical implication of our findings is that, while this previous research on firm familiarity among investors has considered familiarity among investors as being a positive thing, given that it tends to attract investors to a firm's stock, our study suggests that there is a downside to familiarity—it lends to being seen as also culpable when another firm in the industry commits an act of wrongdoing.

Our study also contributes to the corporate governance literature. In short, our findings further the notion that investors' perceptions of governance mechanisms matter (cf. Zajac & Westphal, 2004), and suggest the need for future research to further investigate the relationship between the actual and perceived effectiveness of governance mechanisms. Indeed, our arguments and findings with respect to investors' perceptions of CEO duality turn the conventional agency theory notions of this aspect of corporate governance on its head: rather than being detrimental to firm performance, as warned by agency theorists, our findings that CEO duality lessens the contamination of industry bystander firms following a financial misconduct event suggest that the perceived accountability inherent in CEO duality—even if it this is only an "illusion of strong leadership" (Finkelstein & D'Aveni, 1994: 1100)—works to help, not hurt, firm market-based performance. More generally, our advancement of the notion that investors' beliefs about governance affect their valuations of firms, especially when considered alongside previous research that has shown that management's strategic framing of governance mechanisms may affect stakeholder perceptions (e.g., Fiss & Zajac, 2004, 2006; Zajac & Westphal, 1995), points to the need for future research taking a more social view of governance. Research is clearly needed to further develop an understanding as to how investors' cognitive processes are part and parcel of corporate governance and its effectiveness.

Finally, our conceptualization of the contamination of third parties as a generalization–instantiation process—it involves both the relevant audience's (e.g., investors) generalization of the culpability of one actor (e.g., misconduct firm) to the misconduct actor's predominant social (e.g., industry) category as well as the audience's (e.g., investors') perceptions of the instantiation of this generalized culpability among the other category members (e.g., industry bystander firms)—extends and advances previous research, which has simply focused upon the generalizations of misconduct (e.g., Adut, 2005; Jonsson et al., 2009; see also Greve et al., 2010). In short, our theoretical separation of the contamination process extends thinking in a manner that opens up the ability to conceive of factors that may potentially influence both of these elemental aspects of the contamination process. In particular, our study suggests that characteristics of the misconduct firm and of the misconduct event impact the strength of the audience's generalizations of culpability to the category, while the characteristics of the category members themselves affect the

degree to which they will be perceived by the audience to instantiate the generalized culpability.

The theorization advanced here therefore implies that future researchers interested in contamination processes would do well to first consider who the relevant audience(s) are that will be the vessel for the contamination—after all, this a cognitive process that takes place in the mind of the particular audience(s)—and then must consider whether and how the audience in question relies upon particular categorizations in their sensemaking processes. While, in the current study, this was relatively straightforward, as industry categorizations are fundamental to investors' valuation processes, this may or may not be as apparent among other audiences. For instance, there seems to be little to no theory as to whether customers' generalizations are guided by any particular categorization scheme, and thus their generalizations may be open to a variety of more firm-to-firm similarity characteristics (e.g., Jonsson et al., 2009).

Our approach also suggests that future researchers consider what characteristics of the wrongdoer, of the wrongdoing event, and of the third parties may potentially affect the audiences' perceptions—and these characteristics will, at least in part, be a function of the type of violation in question, as well as the audience's beliefs about it. For example, while we would expect that the agentic attributional processes proposed and found here would extend to other types of organizational misconduct as well as to political wrongdoing—as audiences in this latter context would also seem to be subject to a "romance of leadership"—the particular characteristics that evoke such attributions may differ by the particular type of wrongdoing or context. Furthermore, this also highlights a set of characteristics yet to be considered by extant research on the effects of misconduct on "innocent" third parties (Adut, 2005; Jonsson et al., 2009), including the current study: characteristics of the audience members may also factor into the contamination following the revelation of misconduct. For instance, there are a host of different types of investors—institutional investors, hedge funds, day-traders, individuals, etc.—and, even though we expect that our theorization here applies across all such investors, there may be something about the different types of investors that would lead them to perceive the characteristics of the perpetrator (familiarity), event (e.g., government probe), or industry bystander firms (e.g., CEO duality) in different ways. In short, future research that continues to unpack the processes by which third parties suffer for others' wrongdoing—in the eyes of particular audiences—is clearly needed.

Furthermore, more work needs to be done to better understand the factors by which contamination turns into stigmatization. That is, although past research has essentially treated observers' generalizations of misconduct as stigmatization (e.g., Jonsson et al., 2009), we contend that the contamination surrounding misconduct does not quite amount to stigmatization. Stigma is a "vilifying label" that "links an organization to a negatively evaluated category of organizations collectively perceived by a specific stakeholder group as having values that are expressly counter to its own" (Devers et al., 2009: 157). Stigmatization then involves a categorization process whereby misconduct is judged by a particular stakeholder to mean that the offender's "values are globally and completely incongruent" with those of the stakeholder (i.e., "generalized value incongruence"; Devers et al., 2009: 160), and thus leads to the vilification of the offender by the stakeholder such that this negative labeling successfully diffuses among the rest of the stakeholder group, and beyond, and ultimately becomes a relatively permanent negative label of the category (e.g., pornography, global arms industries). Thus, while the contamination emanating from misconduct events, as we have theorized about here, may be a first step in the stigmatization process, our findings suggest that contamination is relatively short lived—at least in the eyes of investors. Whether contamination transforms into stigma would seem to depend, therefore, upon the misconduct being seen as indicative of the offender (i.e., "generalized value incongruence") and the ability of audience to vilify the offender in a way that "sticks." Thus, for example, while the prominent revelations of wrongdoing by particular investment banks in recent years (e.g., JPMorgan Chase provides just one example) would presumably have had contaminating effects on the investment banking industry, whether or not this industry becomes stigmatized hinges upon social actors (e.g., "Occupy Wall Street") successfully vilifying the industry.

In summary, our conceptualization of the contamination of third parties following an act of misconduct as a generalization–instantiation process allowed us to study and find that industry bystander firms suffer lower valuations for another firm's financial transgressions, and, perhaps more importantly, that certain factors may affect the strength and heterogeneity of this contamination.

Our study thus develops an understanding of investor perceptions surrounding financial misconduct that goes beyond simply how the misconduct firms themselves are perceived. Furthermore, not only does financial misconduct affect industry bystander firms, but our findings suggest that investors' perceptions of strong governance in place at such firms are consequential in this process—evidently, investors' perceptions of governance mechanisms may be just as or more important as whether such mechanisms are effective. Moreover, our approach and its findings deepens an understanding of financial markets from a more social perspective, as it suggests that market valuations are the subject of the dualism between structure and agency—investors' valuations of firms apparently are both guided by both a categorical imperative as well as a propensity to attribute actions to human agency.

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