THE USE OF STRATEGIC NOISE IN REACTIVE IMPRESSION MANAGEMENT: HOW DO MARKET REACTIONS MATTER?

Jing Jin
School of Business
Renmin University
Email: jinjing@rmbs.ruc.edu.cn

Haiyang Li
Jesse Jones Graduate School of Business
Rice University
Phone: 713-348-4194
Fax: 713-348-6331
Email: haiyang@rice.edu

Robert Hoskisson
Jesse Jones Graduate School of Business
Rice University
Email: robert.e.hoskisson@rice.edu

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Abstract

Management scholars have argued and demonstrated that firms use strategic noise as an anticipatory form of impression management to minimize the effect of a potential negative reaction to an event of interest. In this study, we contribute to the impression management literature by exploring how both positive and negative strategic noise may intercede in the process of reactive impression management. We argue that in reactive impression management, since firms already know the initial market reaction to a focal event, they can "strategically" release subsequent positive and/or negative strategic noise depending upon the direction and magnitude of the initial market reaction to the focal event. Using a sample of 7,575 mergers and acquisitions from 2001 to 2015 that represent our focal events, we find strong evidence to support our arguments.

Keywords: Strategic noise, reactive impression management, expectancy violations theory, mergers and acquisitions

On January 16, 2019, Hitachi, Ltd. announced to acquire all issued shares of Yungtay Engineering Co., Ltd., an elevator and escalator company based in Taiwan, resulting in 1.7% decrease of its stock market return. The next day, Hitachi announced suspension of a UK nuclear power stations construction project.

On October 31, 2018, Conduent Inc. announced it would acquire Health Solutions Plus, a top software provider of healthcare payer administration solutions, resulting in 1.7% increase of its stock market return. The next day, Conduent announced that it would cut 213 jobs in Houston by the end of the year.

INTRODUCTION

Organizational impression management (IM) involves the process by which firms aim to control or influence external stakeholders' reactions to events/decisions by intentionally presenting or limiting available information (Bozeman & Kacmar, 1997; Elsbach, Sutton, & Principe, 1998). Through managing their informational environment, firms influence the stakeholders' perceptions of their images in a desirable way (Carlos & Lewis, 2018; Porac, Wade, & Pollock, 1999). One research stream in the literature has specifically examined the use of strategic noise for IM (Elsbach, 2012; Graffin, Carpenter, & Boivie, 2011; Graffin, Haleblian, & Kiley, 2016). Strategic noise refers to any news releases controlled and sent by a firm around the time of a decision announcement, but these releases are "neither intended to clarify nor are causally related to the initial event" (Graffin et al., 2011: 749). In anticipation of a decision announcement that may be perceived unfavorably by stakeholders, a firm may release strategic noise to distract stakeholder attention away from the focal decision (Hirshleifer, Lim, & Toeh, 2009) and thus help offset the decision's potential negative effects (Graffin et al., 2016).

So far, previous studies have focused primarily on the use of strategic noise before or contemporaneously with a focal decision for the purpose of anticipatory IM (e.g., Elsbach, 2012; Graffin et al., 2011). As Graffin et al. (2016: 233) noted, when firms engage in anticipatory IM,

"organizational leaders are unclear about the market reaction an event will engender." However, as cited at the beginning of the paper, why did Hitachi continue to release negative news after observing a negative stock market return upon its M&A announcement, and why did Conduent continue to release negative news after experiencing a positive stock market return upon its M&A decision? We consider these subsequent announcement events as reactive strategic noise to the more prominent focal M&A announcement. In this study, we intend to extend the literature by examining how firms use strategic noise for reactive IM. This inquiry is important for at least two reasons. First, different from anticipatory IM, when firms engage in reactive IM, initial market reactions to focal events have become publicly known after decision announcements. Both the direction (i.e., positive or negative) and magnitude of market reactions reflect how stakeholders have perceived the focal events, which can guide firms on how to release subsequent strategic noises for the purpose of "strategically" managing their stakeholder perceptions. It is unclear, however, how firms draw upon information provided by the initial market reaction to release strategic noise in reactive IM. Second, mainly in regards to anticipatory IM, Graffin et al. (2016: 233) argued that strategic noise involves "obfuscating the connection between the event and the market reaction by releasing *positive and negative information* (italics added)," so observers cannot effectively evaluate the event in isolation. In reactive IM, however, since the market reaction to an event has become known, the role of positive and negative strategic noise may go beyond simply "obfuscating" for impression offsetting. Instead it can be used to achieve different goals in reactive IM when the stakeholders react in different ways. Yet, we know little about how negative and positive strategic noises play their different roles in reactive IM.

To address these gaps, we draw upon the expectancy violations theory (Burgoon, 1993,

2016) and the emerging strategic noise literature (Graffin et al., 2011, 2016) to develop a theoretical model of using strategic noise in reactive IM. Expectancy violations theory suggests that stakeholder expectancy may be violated (or confirmed) either positively or negatively by firms' decisions (Burgoon, 1993). The magnitude of expectancy violation reflects how significant the violation is deviating from the expectation which affects the consequence of the violation (Burgoon, 2016). Firms must learn to manage stakeholder perceptions of their strategic decisions for reducing negative expectancy violations and/or enhancing positive expectancy violations (Burgoon, 2016; Elsbach, 2014). In doing so, firms can use different types of strategic noise for different goals depending upon how stakeholder expectancies have been violated. Accordingly, we develop our theoretical model along two dimensions: *the direction of expectancy violation* and *the magnitude of expectancy violation.* The direction of expectancy violation refers to whether the stock market reaction to an event is positive or negative, and the magnitude of expectancy violation refers to the significance of the stock market reaction (i.e., the absolute value). These two dimensions reflect the degree to which stakeholders perceive the focal decision violates their expectancies (Burgoon, 2016).

We propose that in reactive IM, because firms already know stakeholders' initial responses toward a decision announcement, they can strategically use positive and/or negative strategic noise to manage stakeholder perceptions based upon both the direction and magnitude of expectancy violations. More specifically, when stakeholder expectancy is negatively violated, we argue that firms tend to release more positive strategic noise if the magnitude of the negativity is small. This is because they may perceive the possibility of turning a negative expectancy violation into a positive one. However, if the magnitude of the negative expectancy violation is substantial and it is unlikely to turn around the negative reaction, firms may release more

negative strategic noise to make it a negative expectancy confirmation and avoid future negative expectancy violations (Burgoon, 2016). On the other hand, when stakeholder expectancy is positively violated but the magnitude of the positivity is small, firms tend to release more positive strategic noise. This because firms may believe that there is a need to amplify the size of the positive expectancy violation to further justify their strategic decision. However, if the magnitude of the positive expectancy violation is substantial, firms may use this opportunity to release negative strategic noise in order to avoid creating separate negative expectancy violations in the future for each piece of negative news disclosed.

We test our theoretical model in the context of mergers and acquisitions (M&As) where firms often engage in IM because of the ambiguously negative nature of M&As (Graffin et al., 2016; Reuer, 2005). Using a sample of 7,575 M&A deals between 2001 and 2015 collected from the Securities Data Corporation (SDC) database, we find that acquiring firms tend to release strategic noise after an M&A announcement strategically depending upon both the direction and magnitude of the initial stock market reaction. Our results show that the magnitude of negative stock market reaction is negatively associated with the number of positive strategic noise releases but is positively associated with the number of negative strategic noise releases. In addition, when the stock market reaction is positive, firms tend to release less positive strategic noise and more negative strategic noise as the magnitude of the stock market reaction increases.

Our study contributes to the IM research in general and the strategic noise literature in particular. First, we develop a theoretical framework of reactive strategic noise by considering both the direction and magnitude of expectancy violations and thus provide a more comprehensive picture of how firms use strategic noise for reactive IM. By doing so, we complement the strategic noise literature, which thus far has primarily focused on anticipatory

IM. We explore how strategic noise can be used for reactive IM when the initial market reaction to a decision becomes public and stakeholder expectancies can be violated either positively or negatively. Second, we make a clear distinction between positive and negative strategic noise and demonstrate how they play different roles in reactive IM based on how expectancies have been violated. Our findings suggest that after observing the actual stock market reactions, both the direction and magnitude of the market reactions affect how firms choose positive and negative strategic noise for reactive IM, as the firms have different goals under different situations. Thus, we integrate the expectancy violations theory and the IM literature and show how firms can use strategic noise in reactive IM to manage stakeholder expectancy.

THEORY AND HYPOTHESIS DEVELOPMENT

Expectancy violations theory and impression management

Expectancy violations theory suggests that in social interactions, people do not view others' behaviors as random but instead have various expectations of how others should behave in a given situation (e.g., Burgoon, 1978, 1993). Expectancy is defined as what an individual anticipates will happen in a given context and it is often based upon social norms and specific interaction characteristics (Burgoon, 1978, 1993). When an individual's behavior is sufficiently deviant from expected behavior, it is perceived as an *expectancy violation* (Burgoon, 1993). If the behavior is sufficiently beyond audiences' expectancy, it is considered as a *positive expectancy violation*. Conversely, if the behavior is below audiences' expectancy, it is perceived as a *negative expectancy violation*. In contrast, when a behavior is consistent with such expectancy, it is considered as an *expectancy confirmation*. In particular, if an individual is regarded favorably, his/her expected behavior is considered as a *positive expectancy confirmation*, whereas if the individual is poorly regarded, his/her expected behavior is

considered as a *negative expectancy confirmation* (Burgoon, 2016). In general, the expectancy violations theory predicts that positive expectancy violations tend to receive better outcomes than positive expectancy confirmations, while negative expectancy violations are likely to generate worse outcomes than negative expectancy confirmations. Also, positive expectancy violations and confirmations achieve better outcomes than negative expectancy confirmations and violations (Burgoon, 2016).

In the organizational IM literature, scholars have applied this theory and argued that in interactions between firms and stakeholders, stakeholders develop expectancies about firm behaviors and decisions, and firms engage in IM to manage stakeholder perceptions of and reactions to possible expectancy violations (e.g., Elsbach, 2014; Graffin et al., 2011; Graffin et al., 2016). In general, there are two types of IM based on timing (Elsbach et al., 1998): anticipatory and reactive. Anticipatory IM involves "activities that are undertaken in anticipation of, or contemporaneously with, an event that organizational leaders believe may be perceived as a negative expectancy violation" (Graffin et al., 2016: 3). The timing of initiating anticipatory IM suggests that some *uncertainty* is associated with external stakeholders regarding the focal event. Extant literature has investigated a number of anticipatory IM tactics including "big bath" (Fiechter & Meyer, 2010), foreshadowing (Busenbark, Lange, & Certo, 2017), pre-announcements (Cianci & Kaplan, 2008), and forecasts (Hayward & Fitza, 2016).

Reactive IM occurs after a focal event becomes publicly known (Elsbach, 2014). Particularly, when the focal event has resulted in a negative expectancy violation, firms engage in reactive IM to reduce the perceived severity of the expectancy violation by often providing extra event-related information to justify or explain the effect (e.g., Elsbach, 2012; Graffin et al., 2016). Alternatively, firms may engage in reactive IM after experiencing a positive expectancy

violation. For example, Carlos and Lewis (2018) found that not all firms tend to publicize their certification (e.g., being included in the Dow Jones Sustainability Index), which is considered a positive expectancy violation. In fact, some firms tend to withhold certification status. In contrast, Kim and Lyon (2014) suggested that some firms exaggerate their environmental accomplishments through information disclosure to improve stakeholders' impression of the firms. Popular tactics for reactive IM include apologies, justifications, self-serving attribution, pro-social claims, and even asset divestment (Bolino, Kacmar, Turnley, & Gilstrap, 2008; Durand & Vergne, 2015; Kim, Ferrin, Cooper, & Dirks, 2004; McDonnell & King, 2013).

Strategic noise as an IM tactic

Strategic noise has thus far been considered as an anticipatory IM tactic.[1] Different from typical anticipatory IM tactics (except big bath) as previously mentioned, however, strategic noise involves releasing *event-unrelated* news or information. The rationale is that when multiple pieces of significant information are published simultaneously, it is difficult if not impossible for stakeholders to interpret the effect of any one piece of information in isolation (Graffin et al., 2011). Thus, strategic noise is often used to manage stakeholder impressions when firms anticipate a possible negative outcome to a strategic decision announcement (Graffin et al., 2011). For instance, when a firm is planning to announce a new CEO appointment, uncertainty is associated with stakeholder reaction. It has been shown that stakeholders may react negatively toward the announcement of a new CEO appointment, which can reduce the new CEO's tenure before it even begins (Khurana, 2002). To avoid such negative consequences, the firm may be motivated to inject strategic noise, especially positive news, around the time of the announcement, to offset potential negative effects or offer an alternative explanation of a

[1] However, prior research has examined strategic noise in a short window before and after a decision announcement (i.e., [-1, +1] day), a standard practice for financial event studies (Graffin et al., 2011).

possible unfavorable outcome (Graffin *et al.*, 2011).

Prior research on strategic noise has focused more on how to offset *potential* negative expectancy violations (i.e., anticipatory IM) rather than how to deal with *actual* expectancy violations (i.e., reactive IM). This is an important gap that needs to be addressed because stakeholder expectancies can be violated in different directions (i.e., positive or negative) (Burgoon, 1978). The magnitude of an expectancy violation affects the consequences of the violation (Burgoon, 2016) and thus the subsequent IM behavior. Therefore, we expect that for reactive IM, since stakeholder reactions become publicly known, firms are likely to release positive and negative strategic noise in a strategically "tailored" approach. The roles of positive and negative strategic noises may vary across different situations depending upon how stakeholder expectancies have been violated in terms of both the direction and magnitude.

In Figure 1, we draw upon the expectancy violations theory and develop a framework of strategic noise in reactive IM by following the dimensions of both the *direction of expectancy violation* and the *magnitude of expectancy violation* to better understand how firms employ different types of strategic noise under different conditions of expectancy violations (i.e., stock market reactions). We argue that when the magnitude of a negative stock market reaction is small, firms tend to release more positive strategic noise to reduce the perceived severity of the negative expectancy violation (i.e., *the Reactive Offsetting Effect* in Figure 1). However, when the magnitude of the negative stock market reaction is significant, the likelihood of turning a highly negative expectancy violation around becomes very small. In this situation, firms may release more negative strategic noise immediately to make it a negative expectancy confirmation rather than release it alone in the future when it is likely to be a separate negative expectancy violation (Burgoon, 2016). This also helps adjust stakeholder expectations downward in order to

likely experience a future positive expectancy violation (i.e., *the Big-Bath Effect* in Figure 1). In other words, if things are significantly negative, it is better to disclose all the bad news at once (or as much as feasible) rather than disclose it incrementally to establish a base for better future news. In contrast, when the magnitude of a positive stock market reaction is small, firms may release positive strategic noise to amplify and strengthen the perceived effect of a positive expectancy violation to further justify the focal decision (i.e., *the Amplifying Effect* in Figure 1). However, when the magnitude of the positive stock market reaction is substantial, firms may release negative strategic noise to avoid separate negative expectancy violations for each piece of news released without much risk of hurting the overall market positive reaction (i.e., *the Hiding Effect* in Figure 1). In other words, if the focal decision is perceived to be exceptionally positive, then releasing some negative news reactively may not hurt the perception of the focal decision; rather it may hide the negative news, which if disclosed separately may stimulate a negative expectancy violation and hence receive an overall larger accumulative negative reaction.

[Insert Figure 1 about here]

Research context: M&A announcements

We test our hypotheses in the context of M&As, which are a popular source of firm growth (Bauer & Matzler, 2014; Maas, Heugens, & Reus, 2019). However, due to possible overpayment of acquirers to target firms, managerial over-confidence, and post-integration difficulties (Haspeslagh & Jemison, 1991; Hayward & Hambrick, 1997), M&As may not realize intended value for acquiring firms (Cording, Christmann, & Weigelt, 2010). Also, because of uncertainty about the ultimate performance of merged firms, stakeholders tend to be conservative and may react negatively to acquiring firms (Haleblian et al., 2009; Reuer, 2005). For these reasons, an M&A decision is often considered an ambiguously negative event that might likely lead to a

negative outcome, but it is not intrinsically a negative event (Elsbach et al., 1998).

Given the tenuous nature of ambiguously negative events, firms may not be able to predict stakeholders' reactions to such events with certainty. Existing research has found that acquiring firms in general tend to receive negative to zero stock market reaction (Haleblian et al., 2009; King, Dalton, Daily, & Covin, 2004), and only a small percent of acquiring firms receive positive stock market reaction upon an M&A announcement. Though the stock market reaction is not a reliable indicator for an M&As' long-term value (Rehm & West, 2016), a negative stock market reaction may hurt the transaction even before it starts by discouraging employees and reducing board of directors' trust in top executives. As such, top executives from acquiring firms "watch their company's share price closely in the days following the public announcement of a deal" (Rehm & West, 2016) and are highly motivated to engage in IM (Busenbark et al., 2017; Gamache, et al., 2019) in an "attempt to maintain ambiguity by minimizing audiences' scrutiny of the event so that audience members do not assign negativity to the event" (Elsbach et al., 1998: 83). Also, even if firms engage in anticipatory IM, the stock market may still react in a negative way upon an M&A announcement. In addition, as we will subsequently detail, when M&A announcements receive positive stock market reactions, firms may also be motivated to engage in IM. This suggests that reactive IM is both necessary and important.

Hypothesis development

The use of positive strategic noise when the stock market reaction is negative

When the stock market reaction to an M&A announcement is negative (i.e., negative cumulative abnormal return (CAR) [-1, 0]), it indicates that the M&A decision might negatively violate stakeholder expectations. Expectancy violations theory suggests violations arouse stakeholders' attention to the violators as well as the event associated with the violations and

thus increase scrutiny for the violators (Burgoon, 1993). Research on strategic noise has noted that by releasing anticipatory positive strategic noise, firms could at least partially, if not completely, offset a negative reaction to the decision and diminish additional scrutiny to avoid undesirable attention that typically follows negative expectancy violations (Graffin et al., 2016). Similarly, we would expect that when the stock market reaction to the M&A announcement is negative, firms would likely release positive strategic noise for reactive IM. While releasing positive strategic noise reactively may not directly change how stakeholders perceive and react to the focal decision, it does induce the stakeholders to react to multiple pieces of news in a short window (Graffin et al., 2016), directing their attention away from the M&A announcement and thus constraining their negative reaction to the focal M&A decision.

We further propose that the way in which firms release positive strategic noise may depend upon the magnitude of a negative expectancy violation. Expectancy violations theory (Burgoon, 2016) posits that a positive expectancy violation is better than a negative expectancy violation and more preferable to a positive expectancy confirmation. Thus, we would argue that in general, firms tend to avoid a perceived negative expectancy violation but seek to create a plausible positive expectancy violation. When the magnitude of a negative market reaction is small, firms may perceive a higher probability of it being offset by releasing more positive strategic noise. By doing so, such unrelated positive news may impress investors in a favorable way and beyond their expectations (Graffin et al., 2016). That is, when the magnitude of the negative stock market reaction is small, firms have the motivation to turn the negative market reaction around and possibly create a positive expectancy violation by releasing more positive strategic noise.

In contrast, when the magnitude of a negative stock market reaction is substantial, firms may release less positive strategic noise. Although firms have motivation to avoid a negative

expectancy violation in this situation, they perceive an insufficient possibility of pushing it into the positive zone through releasing positive strategic noise reactively for two reasons. First, when there is an extremely negative stock market reaction (i.e., a substantial negative expectancy violation), the focal decision has significantly aroused stakeholders' attention and thus increased scrutiny (Burgoon & Hale, 1988). In this case, releasing positive strategic noise may not be able to effectively distract stakeholder attention away from the focal decision. Indeed, when investors perceive their expectations have been significantly violated, a firm's attempt to address the negative effect by releasing additional positive news may backfire because the investors are skeptical of the firm's motive of releasing reactive positive news (Tedeschi, & Reiss, 1981). Second, even if a firm is able to distract investor attention away from the focal decision by releasing positive strategic noise, it may not have sufficient positive strategic noise to completely offset the substantial negative stock market reaction. Research has shown that individuals tend to pay more attention and react stronger to negative news than to positive announcements (Soroka, 2006; Soroka, Fournier, & Nir, 2019). Such negativity bias suggests that the potential costs of negative news outweigh the potential benefits of positive news because investors are loss-averse, and thus are more likely to be sensitive to negative rather than positive news (Kahneman & Tversky, 1979). Therefore, the potential offsetting effect of positive strategic noise may be eroded by a substantial negative reaction. In either of these situations, releasing reactive positive strategic noise may not change a negative expectancy violation, given an extremely negative stock market reaction. As such, firms may prefer to release potential positive news at a separate time when such information is more likely to positively violate investors' expectations.

For the abovementioned reasons, we expect that when the stock market reaction is negative toward an M&A announcement, acquiring firms are likely to release more positive strategic

noise when the magnitude of the stock market reaction is small than when it is substantial.

> *Hypothesis 1a (H1a): Following a negative stock market reaction to an M&A announcement, the magnitude of the market reaction (i.e., its absolute value) is negatively related to the amount of reactive positive strategic noise released by the acquiring firms.*

The use of negative strategic noise when the stock market reaction is negative

In general, firms tend to withhold negative news (Kothari, Shu, & Wysocki, 2009). For the sake of information transparency, however, public firms need to disclose the news, even when negative; otherwise, the firms may suffer reputational losses, once it is divulged, as well as litigation risks (Baginski, Hassell, & Kimbrough, 2002; Skinner, 1994). However, firms can decide on the "right" time to release negative news. For instance, firms tend to release more negative news immediately before stock options grants, because their top executives might benefit from lower stock prices on the day of receiving stock option grants, allowing them to enjoy higher profits when exercising options (Yermack, 1997).

How do firms release negative strategic noise for reactive IM when a negative stock market reaction becomes known? We argue that it depends upon the magnitude of the negative market reaction. Intuitively, when a firm experiences a negative market reaction upon an M&A announcement, the firm will be less likely to release negative strategic noise, because it may independently affect the stock price adversely (Neuhierl, Scherbina, & Schlusche, 2013) and further violate stakeholder expectations, making the situation even worse (Burgoon, 1978, 2016). However, we argue that this reasoning is valid only when the magnitude of the negative stock market is less prominent. As discussed per H1a, when the negative stock market reaction has a small magnitude, a firm tends to release more positive strategic noise to alleviate the negative market reaction rather than more negative strategic noise.

If the magnitude of a negative stock market reaction is substantial, however, the situation

will be different. We contend that under this situation, firms may release more negative strategic noise for two possible reasons. First, although stakeholder perception of a firm is likely to be developed over time, such a perception could be fluctuated or altered during interactions (Burgoon & Jones, 1976). The interaction of the M&A announcement and a significant negative stock market reaction suggests that stakeholders may already regard a firm negatively at least in the short term. As the expectancy violations theory proposes, if a firm is already poorly regarded due to the recency of the information (Murdock, 1962), additional negative news is likely to be considered within the range of stakeholder expectancy and thus be perceived as a negative expectancy confirmation rather than a negative expectancy violation (Burgoon, 1978). Thus, further releasing negative strategic noise following a significantly negative stock market reaction immediately after the M&A announcement falls into the range of stakeholder expectation as their expectancy for the firm is already slanted negatively. But additional negative news may result in a negative expectancy violation if released as separate negative announcements in the future. In addition, when an expectancy is confirmed (either positively or negatively), it is less likely to attract stakeholder attention and the reactions are more likely to be discounted accordingly (Chandler, Polidoro, & Yang, 2020; Pollock, Rindova, & Maggitti, 2008).

Second, releasing negative strategic noise that drives the stock price downward will make a future positive expectancy violation easier. As previously argued, a negative expectancy confirmation may stimulate a negative stock market reaction from stakeholders (Burgoon, 2016). That is, releasing negative strategic noise following a significantly negative stock market reaction will further dampen the stock price and keep stakeholder expectations at a lower level. With such a low stock price and low expectation, the likelihood of a stock price increase in the future is higher (Fiechter & Meyer, 2010; Yermack, 1997). In other words, by releasing all

negative news together reactively, firms are more likely to experience a positive expectancy violation or a strong positive stock market reaction in the future when a positive event is announced. This is consistent with the big bath approach used in the accounting literature suggesting that in anticipation of low earnings, top executives tend to clear out their bad news together, such as taking write-offs and increasing reserves, in order to present a more profitable income in future periods (e.g., Elliott & Shaw, 1988; Geiger & North, 2006). This approach has also been used as an anticipatory IM tactic (Graffin et al., 2016). In our context, we would expect that when the stock market reaction to an M&A announcement is extremely negative and a negative expectancy violation becomes inevitable, firms will be motivated to disgorge more negative news for reactive IM rather than disclosing these events incrementally at a different time. Thus, we propose the following hypothesis.

> *Hypothesis 1b (H1b): Following a negative stock market reaction to an M&A announcement, the magnitude of the market reaction (i.e., its absolute value) is positively related to the amount of reactive negative strategic noise released by the acquiring firms.*

The use of positive strategic noise when the stock market reaction is positive

Prior research suggests that strategic noise is used for IM when firms anticipate a potential negative expectancy violation (Elsbach, 2012; Graffin et al. 2011, 2016). An interesting question remains: Does a firm need to release strategic noise for reactive IM when the stock market reaction turns out to be positive after a decision announcement and if so, how? In this and the next sections, we extend this line of research and propose that even though the market reaction to an M&A announcement is positive, firms may be motivated to release positive and negative strategic noise for reactive IM depending upon the magnitude of the positive market reaction.

When the positive market reaction to an M&A announcement is small, it suggests that the M&A decision could positively violate stakeholder expectancies. However, since the magnitude

of the positive reaction is so small, it is not significantly beyond stakeholder expectancies and thus may not be sufficient enough for a firm to justify its M&A decision (Burgoon, 1993). This may motivate the firm to release more positive strategic noise for reactive IM to strengthen the perceived effect of the positive expectancy violation. In other words, releasing more positive strategic noise represents a firm's attempt to manage the impression positively by *amplifying* the perceived effect of a positive expectancy violation when the stock market reaction is small. As abovementioned, we do not expect that positive strategic noise will directly change how stakeholders react to the M&A decision. Yet, since stakeholders are compelled to react to multiple pieces of news within a short-period window, it may increase the overall positivity of the market reaction to the acquiring firm (Graffin et al., 2011).

When the positive market reaction to an M&A announcement is substantial, however, we would expect that firms are less likely to release additional positive strategic noise for two reasons. First, since a strong positive market reaction suggests that stakeholders perceive the M&A as a clear positive expectancy violation, a firm has little motivation to increase the perceived effect of the positive expectancy violation. Firms in general tend to maintain a clear causal attribution when they have good news. For instance, Gennotte and Trueman (1996) found that when top executives have multiple items of news —one of which is earnings—they would prefer to disclose the items separately if the earnings news has positive implications for the firm. Thus, when the positive market reaction is substantial, releasing additional positive strategic noise may obscure the causal link between the M&A decision and the positive market reaction.

Second, according to the expectancy violations theory (Burgoon, 2016), the substantial positive market reaction reflects stakeholders' holistic positive feeling about the firm. In this situation, any additional positive news that is released immediately afterward falls into the range

of stakeholder expectations, which is leaning to the positive side, and thus may create a positive expectancy confirmation rather than a positive expectancy violation. As Burgoon (2016) suggests, firms are more motivated to create a positive expectancy violation rather than a positive expectancy confirmation if possible. This is because a positive expectancy confirmation does not provide anything new or beyond stakeholder expectations and thus stakeholders are more likely to discount a positive expectancy confirmation relative to a positive expectancy violation (Chandler et al., 2020; Pollock et al., 2008). Hence, firms are less likely to release additional positive strategic noise when the positive stock market reaction is substantial. Therefore, we propose the following hypothesis.

> *Hypothesis 2a (H2a): Following a positive stock market reaction to an M&A announcement, the magnitude of the market reaction is negatively related to the amount of reactive positive strategic noise released by the acquiring firms.*

The use of negative strategic noise when the stock market reaction is positive

We argue that firms will release negative strategic noise when they experience a positive stock market reaction, especially when the magnitude of such a positive market reaction is significant. As previously noted, when a firm has negative news, the firm must disclose it to avoid litigation risk (e.g., Baginski et al., 2002; Skinner, 1994). The wise way to release negative news is to find the "right" time for disclosure. We argue that immediately after an extremely positive stock market reaction is a potentially good time for releasing negative strategic noise.

First, releasing negative news is more likely to be tolerated if firms are highly regarded. According to the expectancy violations theory (Burgoon, 1993: 39), highly regarded firms are "granted a wider latitude in deviating from social norms before their behavior is regarded as unexpected." In our context, stakeholders tend to tolerate a larger bandwidth of behaviors for highly regarded firms than for poorly regarded ones. Even when the behavior or the event is

considered negative, stakeholders tend to find excuses for highly regarded firms (Burgoon & Hale, 1988). A significantly positive stock market reaction suggests that stakeholders generally have positive feelings about the firm, at least temporarily. Thus, stakeholders tend to react less negatively toward the firm when it releases negative strategic noise following a significantly positive stock market reaction. Second, a significantly positive stock market reaction toward an M&A announcement may provide a good time for a firm to "*hide*" negative news, as such a reaction can offset the potential negative effect of negative news. Prior research has found that public firms tend to bundle news with expected conflicting signs, hoping that investors will not notice the substance of all the negative news events (Segal & Segal, 2016). Although we do not argue that stakeholders pay no attention to negative news when released immediately after a strong positive stock market reaction, doing so likely reduces the magnitude of stakeholders' negative reactions compared to releasing it later and separately. Releasing negative events separately may result in clear negative expectancy violations (Burgoon, 2016), which may lead to an overall larger accumulative negative reaction.

In contrast, when the magnitude of the positive stock market reaction is small, a firm may be less likely to release negative strategic noise. In this situation, the M&A announcement may not be perceived conclusively as a positive expectancy violation by stakeholders. Although we do not argue that unrelated negative news will directly affect stakeholders' opinion toward the M&A decision, such negative news may influence stakeholders' overall impression about the firm in an unfavorable way (Kelley & Michela, 1980), which may also independently result in stock price declines (Neuhierl et al., 2013). As such, when the magnitude of the positive market reaction is small, releasing negative news reactively may backfire and potentially offset the positive market reaction. For the aforementioned reasons, we propose that the more significant

the positive stock market reaction toward an M&A announcement, the more pieces of negative news a firm is able to subsequently release.

> *Hypothesis 2b (H2b): Following a positive stock market reaction to an M&A announcement, the magnitude of the market reaction is positively related to the amount of reactive negative strategic noise released by the acquiring firms.*

DATA AND METHODS

Sample and data collection

The initial sample for this study included all M&A announcements recorded in the Securities Data Corporation (SDC) Mergers and Acquisitions database from 2001 to 2015. Consistent with prior studies, the sample was constrained by the condition that the acquiring firm held less than 50% of the target at the time of the acquisition announcement and achieved a majority shareholding by virtue of the acquisition (Seth, Song, & Pettit, 2002). The acquisition was kept in the sample if the M&A record in the SDC database was an acquisition of assets, an acquisition of majority interests, or a merger (Netter, Stegemoller, & Wintoki, 2011).

We verified the first M&A announcement data by cross-checking with the Capital IQ database, which includes all news released by firms. After eliminating those with missing data, 23,005 observations remained. We used the CRSP database to compile data on daily stock returns and the COMPUSTAT database to gather other financial information. We collected executive information from the ExecuComp database and the governance data from the Corporate Library. Our sample has 7,575 observations, including 3,746 M&As with negative stock market reactions and 3,829 deals with positive stock market reactions.[2]

Dependent variables

[2] We examined whether our reduced sample has any significant difference from the full sample in terms of acquiring firm performance, acquiring firm debt ratio, and acquisition size. The results suggest no significant differences between these two samples (pROA = 0.462; pdebt = 0.251; pacq_size = 0.360). Thus, we believe that excluding those firms with missing values will not affect our results.

Positive and negative strategic noise. Following previous studies (Graffin et al., 2011; McWilliams & Siegel, 1997), we coded strategic noise as present if three criteria were met at the time of an M&A: (1) a firm announced a confounding event within +/−1 day of the M&A announcement; (2) the confounding event was completely under the control of the firm; and (3) the event was not intended to clarify or be causally related to the M&A. Examples of confounding events are changes in dividend rates, key executives or directors, and earnings. Since we focus on reactive IM, we measured strategic noise as the count of strategic noise events that occurred on Day+1 after an M&A announcement (on Day 0). For a validity check (as shown in Table 2), we calculated *strategic noise* as a density measurement to facilitate comparisons across different intervals measured as the number of confounding events released within the window [-1 day, +1 day] divided by the number of days (3).

We then classified strategic noise into different categories based on content. Clearly positive/negative releases were coded as positive/negative strategic noise. In the case of ambiguous releases, we looked for additional information. For example, for earnings releases, we considered earnings increases relative to estimations as positive, estimation confirmations as neutral, and decreases as negative news. In our sample, the most frequent types of positive strategic noise were new product announcements, customer wins, earnings increases, and business expansions. The most frequent type of negative strategic noise was decreased earnings or lower earnings relative to expectations, and downsizing.

Since the classification of positive and negative strategic noise is critical in this study, we conducted a validation check by randomly selecting 10% of each type of news and asking a research assistant to classify along three categories: positive, negative, and neutral. We assessed our raters' reliability using the interclass correlation coefficients ICC (2, 1) and ICC (2, k) for

positive news, negative news, neutral news, and all news (Shrout & Fleiss, 1979). The ICC (2, 1) ranged from 0.77 to 0.85 and the ICC (2, k) ranged from 0.87 to 0.92, indicating a high interrater agreement for the two raters. All the ICC scores were well above the 0.60 benchmark (Cicchetti & Sparrow, 1981). In addition, our news classifications were consistent with previous studies of corporate press release types (Marsh, & Merton, 1987; Neuhierl et al., 2013). In sum, we measured *reactive positive strategic noise* as the count of positive strategic noises that were released on Day +1 to test H1a and H2a, and *reactive negative strategic noise* as the count of negative strategic noises released on Day +1 to examine H1b and H2b.

Independent variable

Cumulative abnormal return. An abnormal return represents the portion of return on a stock that is unanticipated by an economic model of expected returns. A cumulative abnormal return (CAR) is the sum of the daily abnormal returns for a security over a period, which captures the influence of events during that period. A CAR is considered an important indicator of M&A performance (Zollo & Meier, 2008). We assessed stock returns in our sample against the return of the market portfolio using the following formula:

$$CAR_t(T_1, T_2) = \sum_{t=T_1}^{T_2} \{R_{it} - (\alpha_i + \beta_i R_{mt})\},$$

where R_{it} is the return on stock i for day t, R_{mt} is the return on the market portfolio for day t, α_i is a constant, β_i is specific to stock i, and T_1 and T_2 are the lower and upper limits of the event window, respectively. To test our hypotheses, we calculated *CAR (*-1, 0*)* based on the estimates of α and β during a 250-day window that runs from 295 to 45 days before the focal acquisition (McWilliams & Siegel, 1997). For H1a and H1b, we used the absolute value of negative CAR (-1, 0) in our models.

Control variables

To rule out alternative explanations, we included a number of control variables related to acquiring firms, M&A deals, governance, and the environment.

Acquirer-related controls. We included five acquirer-related controls that may affect acquisition performance and thus influence firm motivation for IM. Evidence shows that the size of an acquiring firm influences acquisition behavior (Moeller, Schlingemann, & Stulz, 2004), and thus we controlled for the acquiring *firm size* by using the logarithm-transformed sales. We controlled for lagged *ROA*, as acquiring firms' prior performance may be related to acquisition success (Morck, Shleifer, & Vishny, 1990). We also included firm *diversification level* and *debt ratio*, because these influence acquisition behavior (Yip, 1982). We measured diversification through the widely used entropy method (Palepu, 1985) and debt ratio as the proportion of a company's assets financed by debt. Finally, we controlled for *firm reputation* because it affects stakeholders' expectation on a focal firm (Zavyalova, Pfarrer, Reger, & Hubbard, 2016). Following Pfarrer, Pollock, and Rindova (2010), we obtained data on firm reputation using the rankings in Fortune's "Most Admired Companies" (Love & Kraatz, 2009) for years after 2006 as well as the rankings in the Wall Street Journal/Harris Interactive "Corporate Reputation" list (Gardberg & Fombrun, 2002) for the years before 2006, since data on Fortune's "Most Admired Companies" is unavailable before 2006. We coded a firm as having high reputation if it appeared among the top 25 firms on either list in a given year (1, "high reputation," and 0 otherwise).

M&A deal-related controls. Nine M&A deal-related controls were included. To rule out the possibility that our results may be due to firms releasing more news in general, we included a baseline confounding rate as a control variable. In particular, the *baseline positive* and *baseline negative confounding rates* were calculated for a three-month period before the acquisition event

(i.e., Day -121 to Day -30), as the number of confounding positive or negative strategic noise divided by the number of days (i.e., 91 days; Graffin et al., 2011; Graffin et al., 2016). As a robustness check, the baseline rates were calculated for the prior six-month periods (i.e., Day -213 to Day -30) and one-year periods (i.e. Day -395 to Day -30). We found similar results to those reported in the following results section for these alternative specifications. *Acquisition size* was measured as the natural logarithm of the transaction value for a given acquisition as reported in the SDC (Sanders & Hambrick, 2007). As a robustness check, we also used the ratio of acquisition size (transaction value) to the acquiring firms' total assets to measure relative acquisition size and the results still held. Evidence shows that the percentage of a firm's stock used in an acquisition influences the market reaction (Travlos, 1987). Thus, we controlled for *stock percentage* measured as the percentage of the total cost of acquisitions paid by the acquirers' own stock. Consistent with prior studies (Haleblian & Finkelstein, 1999; Hayward, 2002), we controlled for *similar acquisition experience*, measured as the number of acquisitions with targets in the same industry (i.e., with the same four-digit SIC code) made by the acquirer over the three years immediately prior to the announcement date (i.e., Day -[365*3] to Day -1). In addition, we included an indicator for *cross-border* acquisitions, measured as a dummy variable. We controlled for a *Friday* announcement to rule out the alternative explanation that CEOs tend to announce acquisitions on a Friday when expecting a negative market reaction, which could be considered a substitute for IM (DellaVigna & Pollet, 2009). Firms may release combined news during their earnings call. As such, we controlled for whether an M&A announcement was near a firm's earnings call or announcement. If there was an earnings call or announcement within the three-day window [-1, +1], we denoted the variable *earnings call within [-1,+1]* as 1, and 0 otherwise. Finally, to account for industry spillover effects (e.g.,

Durand & Vergne, 2015; Zavyaalova, Pfarrer, Reger, & Shapiro, 2012), we controlled for the number of M&As announced within the three-day window [-1, +1] by the focal firm's competitors in the same two-digit SIC code, namely *competitor M&As within day [-1,+1]*.

Governance-related controls. We controlled for four corporate governance factors of acquiring firms. Since the CEO power of acquiring firms affects their acquisition behavior (Hayward & Hambrick, 1997), we controlled for *CEO tenure* (measured by the number of years in office) and *CEO total compensation* (measured as the logarithm of total compensation, including salary, bonuses, total value of restricted stock granted, total value of stock options granted, long-term incentive payouts, and "other"). We also controlled for *board size* (total number of directors) and the *independent outside director ratio* (number of independent outside directors divided by the board size) in acquiring firms.

Environment-related controls. We controlled for *environmental dynamism*, measured as the industry sales growth-rate variability over a five-year period and lagged one year, in all analyses (Boyd, 1990). We also controlled for year dummies in our models.

Analysis techniques

Since our dependent variable is a count variable, the Poisson Model and the negative binomial model were potential options for hypothesis testing depending on whether the dependent variable is over-dispersed (Cameron & Trivedi, 2013; Long, 1997). The Goodness-of-fit test after a Poisson regression suggested that our dependent variable was over-dispersed, making a negative binomial regression more appropriate. Given that our dependent variable has excessive zeros, a zero-inflated negative binomial regression was used, which assumes that the excess zeros are generated by a process separate from the one generating the count values and, as such, can be modeled independently (Cameron & Trivedi, 2013). We specified the baseline

positive/negative confounding rate as the factor that predicts whether the strategic noise was zero. Thus, to test our hypotheses, we adopted zero-inflated negative binomial regressions with standard errors clustered at the firm level. We also used negative binomial regressions as robustness checks and the results remain the same.

RESULTS

Table 1 presents descriptive statistics and bivariate correlations. Although not hypothesized, an underlying argument in our study is that M&A announcements from acquiring firms will be much noisier than expected by chance. To validate this assumption, a paired t-test was performed to compare the actual rate at which M&As were confounded to the baseline confounding rate. We observed that 38.03% (i.e., 8,748 of 23,005) of the acquisitions in our sample had at least one confounding event announcement within the Day -1 to Day +1 event window. As shown in Table 2, the average strategic noise density was 21.7%, while the baseline confounding rate was 11.9% for the prior three months, 11.7% for the prior six months, and 11.4% for the prior year. The paired t-tests (both t-statistics and 95% confidence intervals) suggest that the confounding event density is significantly higher than the baseline rate ($t = 46.57$, $p < 0.001$ compared to the prior three months; $t = 47.21$, $p < 0.001$ compared to the prior six months; $t = 48.64$, $p < 0.001$ compared to the prior year). In addition, both the lower and upper 95% confidence bounds of the differences were greater than zero, which suggests that the difference between the three-day window and the prior three months, six months, or year, is significantly positive. These results provide evidence that acquiring firms tend to release strategic noise during M&A announcements.[3]

[3]Since the databases tend to cover large companies, our sample contains larger companies due to data availability for control variables. We could not test our hypotheses using the full acquisition data from the SDC but we were able to validate our data using the entire sample. We also found that firms tend to release more anticipatory (both positive and negative) strategic noise upon M&A announcements which are consistent with the results found by Graffin et al. (2016).

[Insert Tables 1 and 2 about here]

Table 3 presents the results of how the CAR[-1,0] magnitude affects a firm's release of positive and negative strategic noise when the CAR[-1,0] is negative. Model 1 and Model 3 only contain control variables. Model 2 and Model 4 add the main effects of absolute value of CAR[-1,0] to examine H1a and H1b. H1a predicts that when the stock market reaction to an M&A announcement is negative, the magnitude of the negative reaction is negatively related to the amount of positive strategic noise released after the announcement. Results in Model 2 show that the coefficient for the magnitude of negative market reaction is significantly negative ($b = -20.160$; $p = 0.011$), thus supporting H1a. H1b states that when the stock market reaction is negative, the magnitude of the negative reaction is positively related to the amount of negative strategic noise released after the announcement. Results in Model 4 show that the coefficient for the magnitude of negative market reaction is significantly positive ($b = 42.172$; $p = 0.015$), supporting H1b. These results suggest that when a firm experiences a negative stock market reaction after an M&A announcement, the more significant the negative stock market reaction, the less positive strategic noise, but the more negative strategic noise the firm will release after the announcement. Indeed, when the CAR moves from -0.01 to -0.02, the firm will release 18% less positive strategic noise and 52% more positive strategic noise.

[Insert Table 3 about here]

Table 4 presents the results of how the CAR[-1,0] magnitude affects a firm's release of positive and negative strategic noise when the CAR[-1,0] is positive. Model 1 and Model 3 only contain control variables. Model 2 and Model 4 add the main effects of CAR[-1,0] to examine H2a and H2b. H2a states that the magnitude of a positive market reaction upon an M&A announcement will be negatively related to a firm's release of positive strategic noise. The

coefficient of the stock market reaction in Model 2 is significantly negative (b = -12.504, p = 0.019), thus supporting H2a. H2b states that the magnitude of a positive market reaction upon an M&A announcement will be positively related to a firm's release of negative strategic noise. The coefficient of the stock market reaction in Model 4 is significantly positive (b = 44.290, p < 0.001), thus supporting H2b. These results suggest that when following a positive stock market reaction toward an M&A announcement, the more significant the positive stock market reaction, the less positive strategic noise is released and the more negative strategic noise is released. Indeed, when the CAR moves from 0.01 to 0.02, the firm will release 12% less positive strategic noise and 56% more negative strategic noise.

[Insert Table 4 about here]

Supplementary analyses

To rule out alternative explanations, we have conducted a number of supplementary analyses for a robustness check by addressing the following questions.

(1) Does the direction of stock market reaction matter in reactive IM? H1a and H2a suggest that when the stock market reaction is either positive or negative, the magnitude (i.e., the absolute value) of the stock market reaction is negatively associated with the release of positive strategic noise. Similarly, both H1b and H2b suggest that when the stock market reaction is either positive or negative, the magnitude of the stock market reaction is positively associated with the release of negative strategic noise. As such, we pose a natural question: Does the direction of the stock market reaction matter in reactive IM? To address this question, in a supplementary analysis we combined the two samples used for testing H1a/b and H2a/b, and created two new variables: magnitude of the CAR[-1,0] (measured as the absolute value of the CAR[-1,0]) and positive market reaction (coded as 1 when the CAR[-1,0] is positive, and 0 when

the CAR[-1,0] is negative). By doing this, we intended to separate the effect of the sign of stock market reaction from that of the magnitude of the reaction. Results in Table 5 suggest that firms receiving a positive stock market reaction tended to release significantly more negative strategic noise than those receiving a negative stock market reaction (b = 0.711, p = 0.034). However, we did not find any significant differences regarding the release of positive strategic noise between firms with a positive market reaction and those with a negative market reaction (b = 0.059, n.s.). These findings suggest beyond the magnitude effect of the stock market reaction, the direction of the stock market reaction (i.e., positive or negative) matters in releasing reactive strategic noise.

[Insert Table 5 about here]

(2) Can firms predict the stock market reaction ex ante? One of our assumptions in this study is that firms are unable to predict the stock market reaction *ex ante*. Our aforementioned supplementary analysis shows that in reactive IM, firms with a positive stock market reaction tend to release more negative strategic noise than those with a negative stock market reaction upon an M&A announcement. As such, if firms are able to predict the stock market reaction *ex ante*, we would be able to observe a similar pattern in their anticipatory IM. As shown in Table 5, the coefficients of positive stock market reaction are insignificant in both Models 3 and 4. These findings suggest that firms with a positive market reaction and those with a negative market reaction had no significantly different anticipatory IM behaviors in terms of releasing positive and negative strategic noise. Thus, we believe that firms cannot predict the stock market reaction *ex ante* which further suggests that M&A announcements are not likely to be used as strategic noise because they are ambiguously negative events. We address this issue more directly in the next analysis.

(3) Which is the focal event—the M&A announcement or the strategic noise? Consistent

with prior IM studies that have focused on M&As as the focal event (Busenbark et al., 2017; Graffin et al., 2016), our study assumes that firms release strategic noise around M&A announcements for IM. However, people may argue that M&A announcements could be the strategic noise rather than the focal event for which firms intend to engage in IM. To address this concern, we followed Graffin et al. (2016) and tested whether other M&A-related factors are significantly associated with strategic noise within the given time window. If we could observe that other M&A-related factors significantly affect the amount of strategic noise released within this window, it provides some evidence that M&As are more likely the focal events rather than the strategic noise (Graffin et al., 2016). As shown in Table 6, the coefficients of acquisition size ($b = 0.223$, $p < 0.001$), stock percentage ($b = 0.003$, $p = 0.001$), and acquisition experience ($b = 0.022$, $p = 0.003$) are all significantly associated with the amount of strategic noise events released within the three-day window around M&As. These results suggest that M&A announcements are more likely the focal events and other news events are likely strategic noise.

[Insert Table 6 about here]

(4) Do firms have control over news releases or do they simply release all news together?

In line with prior research (Graffin et al., 2011; Graffin et al., 2016), another assumption in our study is that firms have some control over the time of news releases. Thus, firms may hold some news and release it around an M&A announcement as strategic noise. However, it could be argued that firms may release all news (including M&As) concurrently around an earnings call. Observing that M&A announcements are accompanied by the release of other types of news (i.e., strategic noise) does not necessarily mean that the firms have control over news releases.

To address this concern, we examined whether M&As are always accompanied by earnings calls. In our sample, only 5.8% (1,337 out of 23,005) of M&A announcements were associated

with earnings calls within the 3-day [-1,+1] window. These results suggest it is unlikely that firms will announce all kinds of news together. Further, a subsample of M&A announcements without earnings calls was used to test whether firms released more positive, negative, or neutral strategic noise around M&A announcements. Our results (not reported here for space reason) show that M&A announcements without earnings calls had similar results to those in Table 2. These findings suggest that firms do have control over news releases, and they intentionally announce more positive, negative, neutral, and overall strategic noise around M&A announcements. We further examined the distribution of the relative dates between M&A announcements and earnings calls. Figure 2 shows the distribution of the relative dates spreads quite widely. This finding suggests that M&As are not just released closely around earnings calls, alleviating the concerns that M&A announcements are released due to all news released concurrently.

[Insert Figure 2 about here]

(5) Will some controversial news releases affect our results? It could be argued that dividends may be viewed as positive news for one firm but negative news for another. Similarly, it is possible that not all new product releases will stimulate a positive stock market reaction. To address these concerns, in our unreported supplementary analysis, we excluded these two types of news releases as either positive or negative news and rerun our models, and our results still hold. This suggests that our findings are robust even excluding these two types of news releases.

DISCUSSION AND CONCLUSION

Drawing upon the IM literature and the expectancy violations theory, we examined how firms use strategic noise for reactive IM in the context of ambiguously negative events (i.e., M&A announcements). We argue that although market reaction becomes publicly known after

an M&A announcement, how the market actually reacts reflects the extent to which stakeholder expectancies have been violated and may lead firms to conduct reactive IM by using strategic noise. We propose that both the direction and magnitude of the stock market reaction will affect how firms use different types of strategic noise for reactive IM.

Using a sample of 7,575 M&A deals from 2001 to 2015, we arrive at the following major findings: (1) Following a negative stock market reaction to an M&A announcement, firms tend to release more positive strategic noise when the magnitude of the negative reaction is smaller, but more reactive negative strategic noise when the magnitude of the negative reaction is more substantial. (2) Following a positive stock market reaction to an M&A announcement, firms are inclined to release more positive strategic noise when the magnitude of the positive market reaction is smaller, but more negative strategic noise when the magnitude of the positive reaction is more substantial. (3) The direction of stock market reaction also influences how firms release strategic noise for reactive IM. More specifically, given the same magnitude of stock market reaction, when firms experience a positive market reaction, they tend to release more negative strategic noise than when they experience a negative market reaction.

Theoretical contributions

This study makes several contributions to the IM literature in general and the strategic noise literature in particular. First, complementing prior research that has mainly focused on strategic noise in anticipatory IM (i.e., Graffin et al., 2011, 2016), we believe this is the first study to systematically examine how strategic noise can be used for reactive IM. Existing literature has generally suggested that strategic noise is used to offset potential negative effects of a strategic decision that may be perceived as a *potential* negative violation of stakeholder expectancy (Burgoon, 1993; Graffin et al., 2011). We extend this line of research and examine

whether and how strategic noise can be used for dealing with *actual* negative violations in reactive IM. We argue that even though violations of stakeholder expectancy have occurred and become publicly known, firms can use strategic noise for different reactive IM purposes because such expectancies are violated in different ways. Our theoretical framework suggests, as supported by our findings, that strategic noise can be used for reactive IM in a strategically "tailored" way depending upon both the direction and magnitude of actual expectancy violations. As noted earlier, existing IM literature has explored a variety of reactive IM tactics that usually provide extra *event-related* information to justify and explain the event (Elsbach, 2012) or to announce relevant amendment approaches (Zavyalova et al., 2012) for the sake of repairing a damaged reputation after a negative expectancy violation. Different from those reactive IM tactics, strategic noise involves releasing *event-unrelated* news or information. Thus, findings of this study broaden our understanding of why and how firms engage in reactive IM by using different IM tactics. It appears that, compared with other IM tactics (including both anticipatory and reactive), strategic noise is a much more flexible tactic that can serve for both anticipatory and reactive IM. Thus, strategic noise deserves more attention in the IM literature.

Second, prior research has primarily focused on positive strategic noise or has used positive and negative strategic noises in combination and highlighted the offsetting role of strategic noise (especially positive strategic noise) for anticipatory IM (e.g., Graffin et al., 2016). We contribute to the literature by examining how both positive and negative strategic noise play distinctive roles in reactive IM, especially when the direction and magnitude of expectancy violations vary. Our results show that firms tend to use positive strategic noise for reactive offsetting only when the magnitude of the negative market reaction to an M&A announcement is small. This suggests that the offsetting role of positive strategic noise becomes limited in reactive IM, which is very

different from what has been highlighted by previous research in the context of anticipatory IM (e.g., Graffin et al. 2016). Conversely, when the magnitude of the negative market reaction is significant, firms may release more negative strategic noise with the hope of cleaning out excess negative news and the expectation of a stock market price increase in the future. This is similar to the "big bath" found in accounting research, which is employed for anticipatory IM (Fiechter & Meyer, 2010).

Also, our study adds to the literature by examining how firms release positive and negative strategic noises differently for reactive IM when the stock market reaction is positive. Although this seems counter-intuitive because negative expectancy violations do not occur when the market reaction is positive, our results paint a different picture. It appears that when the magnitude of the positive market reaction is small, firms may still have concerns regarding how stakeholders perceive the value of their M&A decisions, and thus they are likely to release more positive strategic noise to amplify the positive market reaction. In contrast, when the positive market reaction is substantial, releasing additional positive strategic noise becomes unnecessary. As such, this situation becomes a good time for firms to release more negative news without being noticed (e.g., the hiding effect) so that the negative news will not be released later and separately, thus avoiding potential separate news events creating individual negative expectancy violations. These findings broaden our understanding of the "strategic" role of strategic noise in IM which has not been highlighted fully in the literature (e.g., Elsbach, 2012; Graffin et al., 2011, 2016). Our findings emphasize the importance of making a clear distinction between positive and negative strategic noise and showing their distinctive roles in reactive IM rather than just in anticipatory IM. Nevertheless, more fine-grained future research on the topic is needed.

Third, although anticipatory IM has been explored in previous research (Graffin et al.,

2011, 2016), we demonstrate that reactive IM is also important in dealing with ambiguously negative events. Given the nature of ambiguously negative events, and as suggested by our supplementary analysis, firms are unable to predict the stock market reactions *ex ante*. Such unpredictable stock market reactions may push firms to adopt indifferent anticipatory IM strategies. In contrast, when firms engage in reactive IM, the uncertainties in terms of stock market reactions disappear and firms are able to choose strategic noise for reactive IM strategically based upon both the direction and magnitude of market reactions. Further, our findings resonate with research on the blurring distinction between anticipatory IM and reactive IM (Durand & Vergne, 2015; Zavyalova et al., 2012). For example, in the context of responses to media attacks in stigmatized industries, Durand and Vergne (2015: 1218) argued that because of industry spillovers, "responses to media attacks are simultaneously a form of remedial and anticipatory IM." Our findings suggest that firms may use both positive and negative strategic noises for anticipatory motives in conducting reactive IM especially when the magnitude of the stock market reaction to the focal decision is substantial (i.e., the big-bath effect and the hiding effect). That is, when stakeholder expectancy has been significantly violated (either positive or negative), reactive and anticipatory IM may happen around the same time. So, anticipatory IM is only part of the story and reactive IM is important to help explain the full story regarding strategic noise as an IM tactic.

Managerial and practical implications

Our theoretical framework and empirical findings have important managerial and practical implications. Our findings suggest that when top executives release strategic noise for reactive IM, they need to pay special attention to how the stock market reacts to the M&A announcement. We suggest that whether the stock market will react negatively or positively is less important

than the magnitude of the market reaction (either positive or negative) to the M&A announcement. This finding is quite interesting, since top executives tend to treat positive expectancy violations differently from negative expectancy violations. However, our results show that the magnitude of expectancy violations (i.e., absolute value of the stock market reaction) actually plays a more salient role in shaping reactive IM strategies than the direction of expectancy violations (i.e., positive/negative stock market reactions). Therefore, even if top executives are able to predict that a strategic decision will result in either a positive or a negative stock market reaction, they are less likely to predict the magnitude of the stock market reaction. Without the knowledge of the magnitude of such a market reaction, they may not be able to conduct anticipatory IM effectively. This further suggests that releasing strategic noise for reactive IM is both necessary and important and our study provides some guidance for executives to implement reactive IM. In particular, firms may be able to dampen the strategic effect of negative events by using the hiding effect (a significant positive reaction) or the big bath effect (a significant negative reaction).

Limitations and future research

Limitations exist in our paper, which we put forward as avenues for future research. First, we acknowledge that we treat each news release independently and do not consider the relationships among different pieces of news. Also, if considering both strategic noise and M&As together, some news items may be consistent with the M&A decision, while others may not. Inconsistency between two items (Carlos & Lewis, 2018) may further induce firms to engage in IM (Stern, Dukerich, & Zajac, 2014; Vergne, Wernicke, & Brenner, 2018). For example, an increase in dividends may signal a lack of business expansion opportunities, which could be inconsistent with an M&A announcement. Such inconsistency could elicit negative

expectancy violation stimulating firms' further IM behaviors. In an unreported robustness test, we examined whether the stock market reactions influence the release of inconsistent strategic noise but found insignificant results. Future research may explore whether the inconsistency between the confounding events and the focal event affects the effectiveness of IM.

Second, it is possible that the same type of news releases may be considered as positive news for one firm but negative news for another or positive news for one group of external audiences but negative news for another group. For instance, Kim and Lyon (2014) discussed under which conditions firms tend to choose "greenwashing" (i.e., exaggerating their environmental accomplishments through information disclosure) or "brownwashing" strategies (i.e., issuing communications that understate their environmental achievements). Since both strategies have pros and cons, it is difficult for external audiences to determine which one is positive or negative. As such, different firms or firms in different situations may choose different IM strategies. Although our validity check showed excluding such controversial news does not affect our results, future research could investigate whether our positive/negative news could be viewed differently in different situations.

Third, we have argued that firms could benefit from the IM strategies we proposed. However, we did not test whether firms that follow the guidance of our theory actually perform better than those that deviate from the proposed IM strategies. Although we controlled for previous accounting performance, future research could compare the short-term and long-term outcomes (i.e., media coverage sentiment regarding the M&A transaction, M&A completion likelihood, and M&A duration) of pursuing or deviating from our IM strategies. Lastly, this paper considers only focal firms that engage in M&As and includes competitors' M&A activities as a control. Though it is not the focus of our study, it would be interesting for future research to

explore how industrial spillovers affect the choice of the focal firm's IM strategies (Durand & Vergne, 2015; Zavyalova et al., 2012). For instance, Zavyalova et al. (2012) demonstrate how different IM strategies (ceremonial vs technical) help a firm attenuate the negative effect of its competitors' wrongdoing on the tenor of media coverage of its own wrongdoing. Thus, future research could examine the relative effectiveness of positive and negative strategic noise released by a focal firm when its competitors announce M&A decisions. In other words, it would be interesting to explore how competitive interactions in M&As affect the release of strategic noise.

In conclusion, our study contributes to the IM literature in general and the strategic noise literature in particular by providing a better understanding of how firms use strategic noise for reactive IM in the context of M&A announcements. We develop a theoretical framework of strategic noise in reactive IM by considering both the direction and magnitude of expectancy violations after M&A announcements. Our findings suggest that after observing the actual stock market reactions, both the direction and magnitude of the market reactions affect how firms choose positive and negative strategic noise for reactive IM. Further, we argue and show how firms have different goals under different situations. Thus, firms are able to release positive and negative strategic noise in a "strategically" tailored approach. We hope that our study will stimulate more research in this emerging and interesting area.

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		The Direction of Expectancy Violation	
		Negative	***Positive***
The Magnitude of Expectancy Violation	***Small***	*Reactive Offsetting Effect* *(Hypothesis 1a)* - Release more positive strategic noise - Offset negative outcomes of the focal event	*Amplifying Effect* *(Hypothesis 2a)* - Release more positive strategic noise - Amplify the positive effect of the focal event
	Substantial	*Big-Bath Effect* *(Hypothesis 1b)* - Release more negative strategic noise - Clean out the rubbish and expect to experience a stock market price increase in the future	*Hiding Effect* *(Hypothesis 2b)* - Release more negative strategic noise - "Hide" unrelated negative news

Figure 1. Theoretical model of the use of strategic noise for reactive impression management.

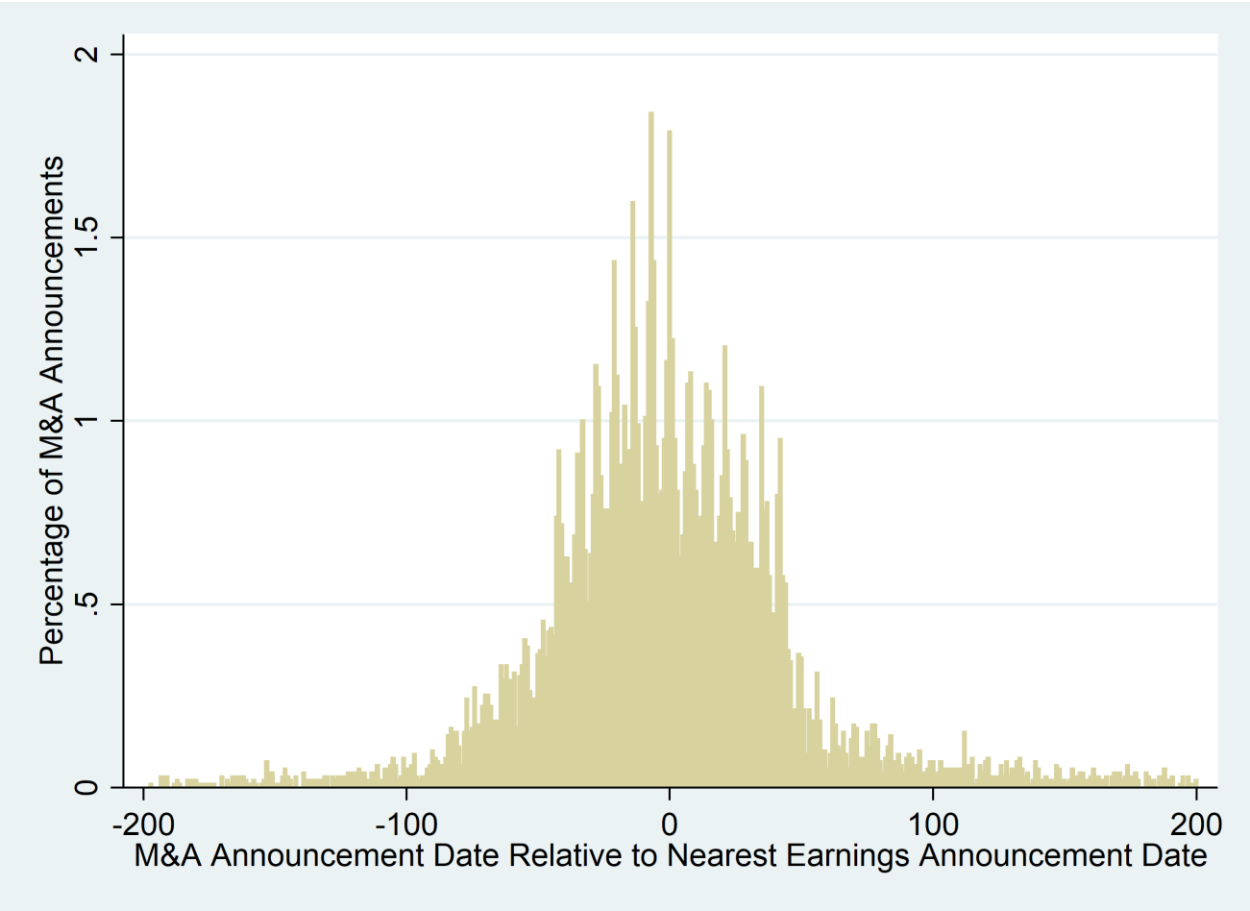

Figure 2. Timing of M&As and earnings announcements.

Table 1. Summary Statistics and Correlations [a, b]

		Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1	Reactive positive strategic noise	0.08	0.49										
2	Reactive negative strategic noise	0.01	0.15	0.12									
3	Strategic noise	0.26	0.41	0.35	0.11								
4	CAR[-1,0]	0.00	0.06	0.00	0.00	0.01							
5	Firm size	8.54	1.99	0.14	0.05	0.25	-0.04						
6	ROA	0.83	0.71	-0.06	0.00	-0.10	0.05	-0.26					
7	Diversification	0.40	0.49	0.04	0.04	0.03	-0.01	0.41	-0.05				
8	Debt ratio	0.55	0.21	0.07	0.01	0.07	0.05	0.51	-0.06	0.26			
9	Firm reputation	0.06	0.23	0.1	0.03	0.19	-0.01	0.43	-0.09	0.34	0.17		
10	Baseline positive confounding rate	0.02	0.05	0.31	0.00	0.33	0.00	0.42	-0.12	0.10	0.25	0.25	
11	Baseline negative confounding rate	0.00	0.01	0.08	0.06	0.17	0.00	0.38	-0.06	0.26	0.20	0.33	0.20
12	Baseline confounding rate	0.15	0.18	0.22	0.03	0.51	-0.01	0.51	-0.14	0.12	0.16	0.36	0.65
13	Acquisition size	1.65	0.39	0.03	0.02	0.14	0.01	0.27	-0.02	0.09	0.10	0.10	0.07
14	Stock percentage	5.92	20.64	-0.02	-0.01	-0.01	-0.06	-0.04	-0.01	-0.06	-0.07	0.00	-0.05
15	Similar acquisition experience	1.86	3.40	0.03	0.02	0.11	-0.01	0.14	-0.21	-0.06	0.04	0.12	0.04
16	Cross border	0.30	0.46	0.03	0.00	0.03	-0.01	0.16	0.02	0.11	0.09	0.08	0.11
17	Friday	0.16	0.37	-0.05	-0.02	-0.10	0.01	0.05	-0.02	0.03	0.04	0.01	0.02
18	Earnings call within [-1, +1]	0.06	0.23	0.06	-0.01	0.25	0.00	-0.02	0.02	-0.03	-0.01	-0.02	0.02
19	Competitor M&As within [-1, +1]	0.63	1.03	0.01	0.01	0.05	-0.02	-0.11	-0.13	-0.15	-0.14	-0.04	-0.03
20	CEO tenure	6.08	4.10	0.02	-0.03	0.07	0.00	0.02	-0.07	-0.09	0.01	-0.07	0.02
21	CEO total compensation	8.51	1.14	0.05	0.01	0.11	-0.04	0.57	-0.09	0.21	0.24	0.22	0.16
22	Board size	9.66	2.67	0.05	0.05	0.13	-0.02	0.66	-0.09	0.41	0.40	0.34	0.20
23	Independent outsider ratio	0.83	0.09	0.03	0.02	0.08	0.01	0.15	0.01	0.07	0.16	0.01	0.07
24	Environmental dynamism	2.05	3.65	0.02	-0.01	0.05	-0.02	-0.02	-0.22	-0.19	-0.10	-0.05	0.00

		11	12	13	14	15	16	17	18	19	20	21	22	23
12	Baseline confounding rate	0.36												
13	Acquisition size	0.06	0.14											
14	Stock percentage	-0.01	-0.06	0.16										
15	Similar acquisition experience	0.06	0.15	-0.18	-0.02									
16	Cross border	0.06	0.10	-0.07	-0.11	-0.04								
17	Friday	0.01	0.02	-0.06	0.00	0.02	0.04							
18	Earnings call within [-1, +1]	0.00	0.02	0.00	0.00	0.02	-0.03	-0.06						
19	Competitor M&As within [-1, +1]	-0.07	0.02	-0.03	0.02	0.06	-0.04	-0.05	0.01					
20	CEO tenure	-0.09	0.06	-0.05	-0.04	0.20	-0.05	0.02	0.01	-0.01				
21	CEO total compensation	0.22	0.24	0.22	0.03	0.04	0.12	0.02	-0.03	-0.06	0.00			
22	Board size	0.34	0.29	0.17	-0.03	0.02	0.13	0.04	-0.01	-0.14	-0.07	0.41		
23	Independent outsider ratio	0.07	0.13	0.05	-0.05	0.00	0.06	0.00	-0.01	-0.06	0.06	0.14	0.17	
24	Environmental dynamism	-0.07	0.02	0.04	0.05	0.04	-0.07	0.00	0.00	0.13	0.01	0.00	-0.12	-0.05

[a] N = 7,575

[b] |correlations| above 0.02 are significant at the 0.05 level

Table 2. Paired t-tests on Strategic Noise Release in Different Windows

Variable	Strategic noise [-1 day, +1 day]	Baseline confounding rate (prior 3 months)	Baseline confounding rate (prior 6 months)	Baseline confounding rate (prior 1 year)
Mean	0.217	0.119	0.117	0.114
Diff		0.098	0.100	0.103
[95% Conf.		0.094	0.096	0.099
Interval]		0.103	0.104	0.107
t statistics		46.57***	47.21***	48.64***

Number of observations = 23,005

Table 3. Zero-Inflated Negative Binomial Regression Models on Reactive Strategic Noise When CAR[-1,0] is Negative

	(1)	(2)	(3)	(4)
VARIABLES	Reactive positive strategic noise		Reactive negative strategic noise	
Abs(CAR[-1,0])		-20.160*		42.172*
		[7.970]		[17.273]
Firm size	0.057	0.054	0.171	0.237
	[0.073]	[0.074]	[0.327]	[0.358]
ROA	-0.119	-0.14	0.774*	1.049*
	[0.161]	[0.158]	[0.385]	[0.428]
Diversification	0.104	0.114	1.136	1.721*
	[0.244]	[0.250]	[0.703]	[0.831]
Debt ratio	0.281	0.296	-1.76	-2.694
	[0.536]	[0.546]	[2.213]	[2.479]
Firm reputation	0.507	0.415	-1.056	-1.174
	[0.309]	[0.315]	[1.146]	[1.252]
Acquisition size	0.353	0.407†	0.555	0.238
	[0.242]	[0.247]	[0.867]	[0.931]
Stock percentage	-0.009	-0.005	-0.009	-0.039
	[0.006]	[0.006]	[0.020]	[0.034]
Similar acquisition experience	-0.005	-0.002	0.151†	0.191†
	[0.020]	[0.021]	[0.089]	[0.101]
Cross border	0.013	0.072	0.232	0.272
	[0.237]	[0.242]	[0.627]	[0.667]
Friday	-1.647***	-1.561***	-1.485	-1.679
	[0.426]	[0.435]	[1.108]	[1.217]
Earnings call within [-1,+1]	0.639†	0.482	-0.941	-1.500
	[0.347]	[0.349]	[1.312]	[1.511]
Competitor M&As within [-1,+1]	0.073	0.051	0.252	0.235
	[0.099]	[0.099]	[0.332]	[0.378]
CEO tenure	0.036†	0.035	-0.159†	-0.156
	[0.021]	[0.021]	[0.093]	[0.100]
CEO total compensation	-0.018	-0.016	-0.566†	-0.698†
	[0.093]	[0.094]	[0.334]	[0.366]
Board size	-0.037	-0.058	0.270	0.360†
	[0.056]	[0.056]	[0.169]	[0.192]
Independent outsider ratio	0.451	0.124	6.214	8.627†
	[1.357]	[1.355]	[4.501]	[5.202]
Environmental dynamism	-0.029	-0.024	0.006	0.001
	[0.034]	[0.035]	[0.108]	[0.122]
Baseline positive confounding rate	-12.649***	-12.288***		
	[2.211]	[2.176]		
Baseline negative confounding rate			-78.690	-85.102
			[77.565]	[96.926]
Constant	-1.143	-0.479	-26.071	-38.135
	[1.549]	[1.547]	[1,249.839]	[875.301]
Observations	3,746	3,746	3,746	3,746
Log pseudo likelihood	-635.3	-631.8	-122.6	-118.3

Robust standard errors in brackets; year dummies are included in all models

*** p<0.001, ** p < 0.05, * p<0.05, † p<0.1

Table 4. Zero-Inflated Negative Binomial Regression Models on Reactive Strategic Noise When CAR[-1,0] Is Positive

	(1)	(2)	(3)	(4)
VARIABLES	Reactive positive strategic noise		Reactive negative strategic noise	
CAR[-1,0]		-12.504*		44.290***
		[5.325]		[10.144]
Firm size	0.087	0.071	-0.147	-0.133
	[0.083]	[0.082]	[0.153]	[0.159]
ROA	-0.365†	-0.354†	-0.770*	-0.646†
	[0.215]	[0.213]	[0.364]	[0.345]
Diversification	0.081	0.119	0.626	0.815†
	[0.244]	[0.243]	[0.433]	[0.444]
Debt ratio	-0.155	-0.096	0.876	1.104
	[0.578]	[0.570]	[1.068]	[1.099]
Firm reputation	0.570†	0.514	-1.167	-1.417†
	[0.328]	[0.327]	[0.781]	[0.809]
Acquisition size	0.271	0.268	-0.218	-0.219
	[0.255]	[0.253]	[0.583]	[0.574]
Stock percentage	-0.001	-0.001	-3.301***	-3.102***
	[0.007]	[0.007]	[0.548]	[0.527]
Similar acquisition experience	0.016	0.013	0.098	0.072
	[0.030]	[0.029]	[0.072]	[0.070]
Cross border	-0.037	-0.061	-0.674	-0.784†
	[0.215]	[0.212]	[0.422]	[0.404]
Friday	-1.457***	-1.409***	-20.775***	-21.209***
	[0.349]	[0.350]	[0.402]	[0.523]
Earnings call within [-1, +1]	1.074***	1.090***	-1.153	-1.771*
	[0.312]	[0.311]	[0.786]	[0.760]
Competitor M&As within [-1, +1]	0.122	0.112	0.450*	0.662***
	[0.088]	[0.086]	[0.191]	[0.192]
CEO tenure	-0.024	-0.026	-0.005	0.010
	[0.024]	[0.023]	[0.061]	[0.062]
CEO total compensation	0.104	0.109	0.568**	0.588**
	[0.075]	[0.075]	[0.207]	[0.210]
Board size	0.012	0.01	-0.026	0.033
	[0.059]	[0.058]	[0.104]	[0.107]
Independent outsider ratio	1.627	1.610	0.230	0.132
	[1.124]	[1.114]	[2.169]	[2.191]
Environmental dynamism	0.002	0.007	-0.254**	-0.255**
	[0.020]	[0.020]	[0.089]	[0.090]
Baseline positive confounding rate	-13.239***	-12.427***		
	[3.012]	[2.738]		
Baseline negative confounding rate			-164.068**	-153.229**
			[58.954]	[52.065]
Constant	-4.902***	-4.388***	-6.987***	-8.453***
	[1.363]	[1.353]	[2.465]	[2.370]
Observations	3,829	3,829	3,829	3,829
Log pseudo likelihood	-777	-774	-128.2	-126.8

Robust standard errors in brackets; year dummies are included in all models
*** p<0.001, ** p < 0.05, * p<0.05, † p<0.1

Table 5. The effect of stock market reaction direction and magnitude on strategic noise releases

VARIABLES	(1) Reactive negative strategic noise	(2) Reactive positive strategic noise	(3) Anticipatory negative strategic noise	(4) Anticipatory positive strategic noise
Abs(CAR[-1,0])	27.181***	-14.334***		
	[5.863]	[3.966]		
Positive stock market reaction (Dummy)	0.711*	0.059	0.130	0.071
	[0.334]	[0.133]	[0.203]	[0.086]
Firm size	0.315***	0.098†	0.020	-0.001
	[0.109]	[0.052]	[0.090]	[0.038]
ROA	0.300	-0.141	0.218	-0.013
	[0.219]	[0.112]	[0.134]	[0.116]
Diversification	0.874*	0.238	0.205	-0.095
	[0.354]	[0.195]	[0.208]	[0.104]
Debt ratio	-0.898	-0.022	-0.794	-0.121
	[0.845]	[0.366]	[0.659]	[0.268]
Firm reputation	-1.332**	0.359†	0.339	0.447*
	[0.514]	[0.212]	[0.445]	[0.199]
Acquisition size	0.228	0.348*	0.531*	0.366**
	[0.453]	[0.167]	[0.234]	[0.130]
Stock percentage	-0.057***	-0.005	-0.005	-0.002
	[0.015]	[0.003]	[0.004]	[0.002]
Similar acquisition experience	0.088*	0.017	-0.062	0.012
	[0.042]	[0.013]	[0.041]	[0.018]
Cross border	0.031	0.039	0.024	0.040
	[0.366]	[0.151]	[0.149]	[0.090]
Friday	-2.668***	-1.443***	-0.299	-0.461***
	[0.614]	[0.432]	[0.274]	[0.118]
Earnings call within [-1,+1]	-1.054	0.731***	0.741**	0.675***
	[0.778]	[0.216]	[0.249]	[0.113]
Competitor M&As within [-1,+1]	0.463***	0.140†	0.061	0.052
	[0.123]	[0.077]	[0.102]	[0.050]
CEO tenure	-0.076	0.012	0.012	-0.003
	[0.056]	[0.015]	[0.018]	[0.009]
CEO total compensation	-0.208*	0.065	0.096	0.044
	[0.099]	[0.042]	[0.104]	[0.063]
Board size	0.066	-0.057	-0.018	0.030
	[0.071]	[0.035]	[0.047]	[0.020]
Independent outsider ratio	4.490†	1.638*	1.362	0.257
	[2.520]	[0.758]	[1.362]	[0.482]
Environmental dynamism	-0.114†	0.002	0.057	0.005
	[0.062]	[0.014]	[0.062]	[0.006]
Baseline positive confounding rate	-188.029†		-56.406***	
	[100.697]		[5.338]	
Baseline negative confounding rate		-12.260***		-14.447***
		[1.496]		[2.067]
Constant	-11.043***	-3.174***	-1.733	-0.394
	[2.411]	[0.877]	[1.878]	[0.630]
Observations	7,575	7,575	7,575	7,575
Log pseudo likelihood	-267.8	-1427	-641.7	-3550

Robust standard errors in brackets; year dummies are included in all models
*** p<0.001, ** p < 0.05, * p<0.05, † p<0.1

Table 6. Zero-inflated Negative Binomial Regression on Strategic Noise [a]

VARIABLES	Strategic noise [-1,1]
Firm size	0.147***
	[0.030]
ROA	-0.009
	[0.032]
Diversification	-0.111†
	[0.058]
Debt ratio	-0.294*
	[0.139]
Firm reputation	0.467***
	[0.156]
Acquisition size	0.223***
	[0.063]
Stock percentage	0.003***
	[0.001]
Similar acquisition experience	0.022**
	[0.007]
Cross border	0.004
	[0.036]
Friday	-0.452***
	[0.051]
Earnings call within [-1,+1]	0.805***
	[0.066]
Competitor M&As within [-1,+1]	0.088***
	[0.019]
CEO tenure	0.002
	[0.005]
CEO total compensation	-0.032
	[0.030]
Board size	-0.000
	[0.010]
Independent outsider ratio	0.17
	[0.273]
Environmental dynamism	0.010*
	[0.004]
Baseline confounding rate	-16.061***
	[3.733]
Constant	-1.261***
	[0.326]
Observations	7,890
Log pseudo likelihood	-8657

Robust standard errors in brackets; year dummies are included in all models
*** p<0.001, ** p < 0.05, * p<0.05, † p<0.1

[a] The number of observations are greater than the sum of the observations in Tables 3 and 4 because some observations resulted in the non-convergence issue are automatically dropped off from the regression.

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Jing Jin (jin.jing@ruc.edu.cn) is an assistant professor of management at the Renmin University of China. She received her Ph.D. in strategic management from Rice University. Her research interests concern the corporate impression management, entrepreneurship, and the interactions of these two fields.

Haiyang Li (haiyang@rice.edu) is a professor of strategic management and innovation at the Jesse H. Jones Graduate School of Business, Rice University. He received his Ph.D. from City University of Hong Kong. His current research interests focus on technology entrepreneurship and innovation, strategic alliances and multinational firms' innovation in emerging markets, as well as the growth of technology clusters in China.

Robert E. Hoskisson (robert.hoskisson@rice.edu) holds the George R. Brown Emeritus Chair of Strategic Management at Rice University's Jones School of Business. His research topics include: corporate and international strategy; corporate governance; strategic entrepreneurship; acquisitions and divestitures; business groups; and IPOs. He is a Fellow of the Academy of Management and Strategic Management Society.