UC Riverside
UC Riverside Previously Published Works

Title
Do They Walk the Talk? Gauging Acquiring CEO and Director Confidence in the Value Creation Potential of Announced Acquisitions

Permalink
https://escholarship.org/uc/item/0676c7ph

Journal
Academy of Management Journal, 56(6)

ISSN
0001-4273

Authors
Devers, Cynthia E
McNamara, Gerry
Haleblian, Jerayr
et al.

Publication Date
2013-12-01

DOI
10.5465/amj.2011.0555

Peer reviewed

eScholarship.org Powered by the California Digital Library
University of California

© *Academy of Management Journal*
2013, Vol. 56, No. 6, 1679–1702.
http://dx.doi.org/10.5465/amj.2011.0555

DO THEY WALK THE TALK? GAUGING ACQUIRING CEO AND DIRECTOR CONFIDENCE IN THE VALUE CREATION POTENTIAL OF ANNOUNCED ACQUISITIONS

CYNTHIA E. DEVERS
GERRY McNAMARA
Michigan State University

JERAYR HALEBLIAN
University of Georgia

MICHELE E. YODER
University of Michigan–Dearborn

We explore whether acquiring CEOs and directors act consistently with the idea that their newly announced acquisitions will increase long-term firm value. Specifically, we examine postannouncement adjustments to CEOs' equity-based holdings and find acquiring CEOs tend to exercise options and sell firm stock following acquisition announcements. Moreover, positive short-term market performance exacerbates this effect. Further, we find directors tend to grant their acquiring CEOs stock options, after acquisition announcement, presumably to more tightly align CEO-shareholder interests. These findings suggest that when CEOs and directors manage acquiring CEOs' equity-based holdings, they do not appear to anticipate long-term value creation from their acquisitions.

CEOs are responsible for developing and implementing firm value–enhancing actions (Finkelstein, Hambrick, & Cannella, 2009). Therefore, it is reasonable to assume that CEOs make acquisitions because they are confident that those acquisitions will create long-term firm value (Sanders & Hambrick, 2007). Indeed, when announcing acquisitions, acquiring CEOs often publically declare their confidence in the long-term value creation potential of the impending deals. Nevertheless, more often than not, those same acquisitions fail to generate positive acquirer returns (Haleblian, Devers, McNamara, Carpenter, & Davidson, 2009). Despite these findings, CEOs continue to acquire with vigor, ringing up trillions of dollars (US) in worldwide acquisition spending annually (Barkema & Schijven, 2008).

Scholars have long sought to understand *why* CEOs might be confident that their impending acquisitions will deviate from the typical pattern of poor acquirer performance and result in long-term firm value enhancement (e.g., Roll, 1986). However, virtually no research is an attempt to determine *whether* those CEOs actually act as though they are confident in that long-term value-enhancing potential (Haleblian et al., 2009). This is a critical untested question about acquiring managers' mind-sets and motives regarding acquisition behavior. To examine this question, we classify theory and evidence regarding why CEOs acquire from the mergers and acquisitions (M&A), executive compensation, and corporate governance literatures into two distinct theoretical perspectives: (1) value enhancement and (2) private interest. Drawing on this classification scheme, we test two opposing sets of theoretically derived arguments regarding whether acquiring CEOs act as though they expect their acquisitions to create long-term value.

We derive the value enhancement perspective from M&A theory and research that shares the assumption that CEOs acquire because they see strong evidence that their acquisitions will create long-term firm value. Work in this stream has proposed multiple reasons why CEOs might conclude

We thank Bert Cannella for his helpful comments on previous versions of this article. We also thank Editor Jason Colquitt and three anonymous reviewers, whose insightful comments and suggestions significantly improved the clarity of our arguments and our contribution.

Copyright of the Academy of Management, all rights reserved. Contents may not be copied, emailed, posted to a listserv, or otherwise transmitted without the copyright holder's express written permission. Users may print, download, or email articles for individual use only.

that acquisitions they are considering will enhance long-term value, even though the majority of acquisitions do not (Sanders & Hambrick, 2007). Four commonly proposed reasons are that CEOs (a) are privy to private synergy opportunities (e.g., Hitt, Ireland, & Harrison, 2001; Mahoney & Mahoney, 1993); (b) have access to superior information (e.g., McNamara, Haleblian, & Dykes, 2008); (c) expect greater market power to accrue from acquisitions (e.g., Holcomb, Holmes, & Hitt, 2006; Kim & Singal, 1993; Prager, 1992); or (d) are motivated by their own hubristic tendencies and believe that they will create value as they integrate targets into their firms, even if they paid high premiums (Cannella & Hambrick, 1993; Hayward & Hambrick, 1997; Roll, 1986). Although each relies on somewhat different underlying assumptions, all of these arguments lead to the same outcome: CEOs will acquire only if they are highly confident that their acquisitions will create long-term firm value. In other words, if one (or more) of the value-enhancing motives is the primary impetus for acquisitions, CEOs will focus on the potential of those acquisitions to generate positive long-term shareholder returns. Assuming that acquiring CEOs are intendedly rational, they will only pursue actions they believe will achieve their goals. Therefore, if CEOs are driven by value-enhancing motives, they will only acquire if they are highly confident that an acquisition will enhance long-term shareholder value.

Value enhancement arguments can similarly apply to boards of directors. Specifically, directors are responsible for ensuring their CEOs' strategic actions align with shareholders' interests (Devers, McNamara, Wiseman, & Arrfelt, 2008). It follows, then, that shareholders should expect directors to question their CEOs about the potential value inherent in proposed strategic investments, such as acquisitions, before endorsing those moves (Kroll, Walters, & Wright, 2008). This view suggests that directors should support acquisition investments only when they perceive that their CEOs are confident that those actions hold potential to enhance long-term firm value (i.e., proposed targets offer private synergies, generate market power, etc.).

The majority of M&A research examining why CEOs acquire draws on the assumptions underlying the value enhancement perspective and, thus, focuses on understanding why CEOs are confident in the long-term firm value prospects of their acquisitions. However, a recently developing stream of executive compensation research has begun to reveal evidence suggesting CEOs may be motivated to acquire for their own personal benefit, rather than strictly to enhance long-term firm value. Drawing on this research, we develop a second set of conceptual private interest motive arguments that, in contrast to our arguments listing value enhancement motives, suggest that CEOs' primary motives for acquiring other firms may be the desire to (a) increase their compensation (e.g., Grinstein & Hribar, 2004; Harford & Li, 2007; Tosi, Werner, Katz, & Gomez-Mejia, 2000), (b) improve their bargaining power and discretion (Hambrick, Finkelstein, & Mooney, 2005; Henderson & Fredrickson, 1996), or (c) diversify their personal risk (Amihud & Lev, 1981; Hoskisson & Turk, 1990; Seth, Song, & Pettit, 2002). Like research taking the value enhancement perspective, research studies from what we label the private interest perspective also share an important assumption: CEOs may make acquisitions that serve their own private interests rather than shareholders' interests (Bliss & Rosen, 2001). Research falling under this perspective implies that although CEOs may expect to receive private benefits from their newly announced acquisitions, these same CEOs may not have a great deal of confidence about the long-term value-enhancing potential of their firms' acquisitions. In other words, if private interest motives are the primary driver of acquisitions, acquiring CEOs are likely to be highly confident that those acquisitions will allow them to achieve their own personal private interest goals but much less confident that those acquisitions will enhance long-term firm value. Importantly, private interest motives arguments do not suggest CEOs are confident their acquisitions will destroy long-term firm value; rather, those CEOs are simply not confident in the long-term value creation potential of their acquisitions. We test these arguments by examining how acquiring CEOs and directors manage CEOs' equity-based holdings (exercisable stock options and stock) after acquisition announcements.

Examining changes in acquiring CEOs' equity-based holdings soon after acquisition announcements allows a unique opportunity to gauge CEOs' confidence in the long-term value-creation potential of their impending acquisitions. Specifically, successfully integrated acquisitions can significantly increase firm value and, in the process, notably enhance the value of CEOs' equity-based holdings, whereas unsuccessful acquisitions generally produce contrary effects (Moeller, Schlingemann, & Stulz, 2004). Accordingly, post–acquisition announcement changes to acquiring CEOs'

equity-based holdings should reflect CEOs' confidence in the value-enhancing prospects of those forthcoming acquisitions (e.g., Malmendier & Tate, 2005). Specifically, we argue that if CEOs are confident their acquisitions will generate long-term shareholder value, they will "walk the talk" by holding their accessible stock options and stock following acquisition announcements, to benefit from the share price appreciation that successful acquisitions generally produce. Conversely, we propose that if CEOs have low confidence in the long-term value prospects of their newly announced acquisitions, they may simply "talk the talk" and exercise accessible stock options and sell firm stock after acquisition announcement to mitigate the risk of potential future share price declines that would erode the value of those holdings.

Similarly, we propose that if directors believe that their CEOs are confident that their newly announced acquisitions will increase long-term shareholder value, those directors will not grant their CEOs additional stock options, as they perceive those CEOs are already acting in shareholders' best interests. However, if directors sense that their CEOs are not confident about the long-term value prospects of those acquisitions, they will grant their CEOs stock options to motivate those CEOs to focus on long-term firm value enhancement (Jensen & Meckling, 1976).

This study has important theoretical implications for the M&A, executive compensation, and corporate governance literatures. Specifically, M&A scholars have often assumed that CEOs acquire because they are confident in the long-term firm value creation potential of their firms' acquisitions; however, limited research has focused on whether CEOs actions are consistent with this belief. By organizing M&A and executive compensation research regarding CEOs' motivations for acquiring other firms into two distinct perspectives—value enhancement and private interest—we provide an original synthesis that allows us to test a broader set of theoretically derived arguments designed to examine whether or not CEOs act as if they are confident in the long-term value creation prospects of their acquisitions. We show that acquiring CEOs and directors manage CEOs' equity-based holdings in a manner that suggests CEOs lack confidence in the value creation potential of their acquisitions. These findings challenge the commonly accepted value enhancement arguments found in previous studies in which it is assumed CEOs acquire because they are confident their acquisitions will create long-term firm value, even though the majority of acquisitions do not (Sanders & Hambrick, 2007). Most importantly, we believe our results serve as an impetus to shift the current conversation regarding CEOs' acquisition motives away from one focusing on why CEOs are confident in the long-term value potential of their acquisitions to a broader set of questions, including whether CEOs lack confidence in long-term acquisition value creation and act accordingly.

THEORY AND HYPOTHESES

In this study, we organize the literature regarding CEOs' motivations for acquisitions into two perspectives that reflect two broad motives that drive CEO acquisition behavior: value enhancement and private interest. We then develop theoretical arguments that predict changes to acquiring CEOs' equity-based holdings following acquisition announcements.

CEOs' Post–Acquisition Announcement Equity-Based Holdings Changes

Value enhancement motives. Our review of the M&A literature indicated that scholars generally draw on one of four arguments when attempting to explain why CEOs and directors might view potential acquisitions as opportunities to increase firm value: private synergies, access to superior information, attempts to obtain market power, and CEO hubris. First, the private synergy argument is that CEOs will make acquisitions when they obtain information suggesting that the combination of their firm and a target firm offers a firm-specific synergistic opportunity to create value by exploiting one or more common or complementary resources or capabilities. Under this perspective, acquiring CEOs expect that those private synergies will increase the value of the combined firm to be over and above the sum of the individual values of the acquiring and target firms (Hitt et al., 2001; Mahoney & Mahoney, 1993). Second, according to the superior information thesis, CEOs undertake acquisitions when they believe that they hold asymmetric or superior information that allows them to recognize prospective acquisition opportunities that others cannot or do not see (McNamara et al., 2008). This perspective suggests that CEOs acquire because they believe that their superior information will allow them to seize value from combining firms before their competitors recognize the oppor-

tunity (Carow, Heron, & Saxton, 2004; Myers & Majluf, 1984).

Under the third argument, CEOs acquire other firms when they believe that doing so will increase their firms' market power by reducing industry competition, which they expect will increase firm value via cost-reducing economies of scale or scope (Holcomb et al., 2006) or increased pricing power (e.g., Kim & Singal, 1993; Prager, 1992). Finally, the CEO hubris argument suggests that CEOs make acquisitions because they overestimate their managerial skills and, thus, exaggerate their ability to successfully integrate and extract value from target firms (Cannella & Hambrick, 1993; Hayward & Hambrick, 1997). The common thread running through each of these value enhancement arguments is that acquiring CEOs focus on the potential of acquisitions to generate positive long-term firm value and pursue acquisitions they are confident will achieve this goal. Thus, if CEOs are motivated by the value-enhancing potential of acquisitions and are intendedly rational in their actions, they should acquire only if they are confident those acquisitions hold strong potential to enhance long-term firm value.

The value of CEOs' equity-based holdings is tied directly to their firms' value (Finkelstein et al., 2009; Murphy, 1999). Therefore, how acquiring CEOs' manage their accessible equity-based holdings (stock options and stock) following acquisition announcements should reflect their confidence in the long-term firm value potential of those acquisitions (Malmendier & Tate, 2005). Specifically, scholars have long emphasized the importance of aligning the interests of self-interested executives with those of firm owners (cf. Berle & Means, 1932). Given the difficulty and costliness of directly monitoring and evaluating CEO behaviors, incentive alignment proponents argue for aligning these interests by tying CEO wealth directly to outcomes that owners value (e.g., share price). Equity-based compensation forms, and stock options in particular, are widely used to align the interests of CEOs with those of owners (Core, Guay, & Van Buskirk, 2003; Finkelstein et al., 2009). For example, stock options allow CEOs to reap benefits from future firm value gains (Sanders & Hambrick, 2007). Thus, directors commonly rely on stock options to discourage managerial opportunism and achieve higher levels of firm performance and shareholder wealth–maximizing actions (Sanders, 2001).

Nevertheless, an important nuance exists with regard to stock option compensation. Specifically, unexercisable options represent potential future wealth that is inaccessible before those options vest (become exercisable). However, once stock options vest, CEOs may choose, largely at their discretion, to continue to hold those exercisable options or exercise and sell them to capture the accrued value (Wiseman & Gomez-Mejia, 1998). As Heath, Huddart, and Lang noted, "stock options effectively provide employees with a choice between a sure amount of cash today and an uncertain amount of cash in the future, much like the decision between continuing to hold a stock and cashing out" (1999: 601). In this way, as in the case of exercisable options, the value of CEO stock holdings represents real, accessible current wealth that exhibits both upside and downside potential (Sanders, 2001). Therefore, CEOs who hold exercisable stock options and firm stock can reap the benefits of future firm value creation yet also assume the risk of loss in the event their firms underperform (Jensen & Murphy, 1990).

CEOs can manage their equity-based holdings by cashing out stock options and selling stock (Core & Larcker, 2002). However, when CEOs expect positive returns, they tend to retain their holdings to accrue future equity gains (Benartzi & Thaler, 1999; Matta & McGuire, 2008). This research, then, suggests that if CEOs are confident in the long-term firm value enhancement potential of their acquisitions, they should retain their stock options and firm stock holdings after announcing acquisitions, to capture the subsequent increases in equity-based value that they believe their acquisitions offer.[1] This value enhancement perspective suggests:

Hypothesis 1a. Acquiring CEOs are less likely to exercise stock options after periods during which acquisitions are announced than after nonannouncement periods.

Hypothesis 2a. Acquiring CEOs are less likely to sell firm stock after periods during which acquisitions are announced than after nonannouncement periods.

Private interest motives. Although the value enhancement perspective proposal is that CEOs ac-

[1] Recent research has shown that CEOs appear to consider exercisable options to be similar to stock; however, it remains unclear how closely CEOs' perceptions of exercisable options mirror those of stock (Devers et al., 2008). Therefore, we propose and test separate hypotheses for exercisable stock options and stock.

quire because they are confident that doing so will increase long-term firm value, substantial research has consistently shown that acquisitions generally do not enhance either short-term (Asquith, 1983; Dodd, 1980; Jarrell & Poulson, 1987; Malatesta, 1983) or long-term acquiring firm value (Agrawal, Jaffe, & Mandelker, 1992; Asquith, 1983; Loderer & Martin, 1992) and often produce highly volatile, negative returns (Chatterjee, 1992; Datta, Iskandar-Datta, & Raman, 2001; Datta, Pinches, & Narayanan, 1992; King, Dalton, Daily, & Covin, 2004; Langetieg, Haugen, & Wichern, 1980; Moeller, Schlingemann, & Stulz, 2003; Seth et al., 2002). Scholars attempting to reconcile these findings have begun to reveal that CEOs can accrue substantial personal benefits from acquiring other firms regardless of acquisition success or failure (Haleblian et al., 2009). For example, firm size is a key driver of executive pay (Tosi et al., 2000). Because, on average, acquisitions produce rapid firm growth (Morrow, Sirmon, Hitt, & Holcomb, 2007; McNamara et al., 2008), acquiring a firm often increases managers' compensation much more quickly than do other investments (e.g., capital expenditures or organic growth). Recent research showing acquiring CEOs' postacquisition pay increases, irrespective of whether acquisitions increase firm value or not, appears to support this view (Grinstein & Hribar, 2004).

In addition, acquisitions make firms more complex. In turn, such complexity generally restricts outside monitoring and evaluation (Bloom & Milkovich, 1998; Milgrom & Roberts, 1992) and enhances CEOs' discretion and bargaining power (Hambrick et al., 2005; Henderson & Fredrickson, 1996), which can further insulate those CEOs from employment risks (Hoskisson & Turk, 1990; Walsh & Seward, 1990). Finally, scholars have argued that CEOs may acquire to reduce their personal risk via firm diversification, which allows them to spread their equity-based compensation portfolios across multiple businesses (Amihud & Lev, 1981; Pablo, Sitkin, & Jemison, 1996; Seth et al., 2002). In accordance with Bliss and Rosen's assertion that "even mergers which reduce shareholder value can be in a manager's private interest" (2001: 110), this research suggests that CEOs' acquisition decisions may be primarily driven by their own personal interests (e.g., increasing compensation, discretion, bargaining power, diversification). In cases in which private interests dominate, we expect acquiring CEOs to have low, as opposed to high, confidence in the long-term value creation potential of their acquisitions. We are not suggesting that CEOs are confident their acquisitions will destroy long-term firm value. Rather, on the one hand, we argue that if CEOs acquire primarily for reasons of private interest, they likely lack confidence in the long-term firm value creation potential of those investments. On the other hand, they will likely be confident about accruing private benefits from those acquisitions. Given their uncertainty about the value creation prospects for these acquisitions, we expect CEOs who have acquired primarily for reasons of private interest to perceive some level of personal downside wealth risk regarding the value of currently accessible equity-based holdings (Devers, Wiseman, & Holmes, 2007b; Gray & Cannella, 1997; Sanders & Hambrick, 2007).

To elaborate this point, recent research has shown that CEOs perceive and respond to exercisable and unexercisable stock options differently. Specifically, Devers et al. (2008) showed that although the relationship between CEOs' unexercisable stock options and CEO risk behavior was positive and linear, the relationship between CEOs' exercisable stock options and CEO risk behavior was concave. They argued that as stock options vest, CEOs may endow their personal wealth with that potential value (e.g., count it as earned wealth). Executive compensation scholars from both the financial-economic and management disciplines have recently found that when CEOs perceive the potential for firm value declines, they often respond to such risks by decoupling, at least in part, their personal wealth from firm performance via exercising stock options and selling firm stock (Bettis et al., 2005; Matta & McGuire, 2008). Some scholars have gone a step further by arguing that executives opportunistically use private information to time equity-based holding reductions. For example, Bartov and Mohanram (2004) found evidence suggesting that executives who held private information about poor future earnings cashed out options in advance of earnings. Bartov and Mohanram's results align with Huddart and Lang's (2003), which demonstrated that private information appeared to influence stock option exercise.

In sum, prior research suggests that if CEOs have low confidence in the long-term firm value creation potential of their impending acquisitions, they may attempt to minimize related potential downside wealth risk by reducing the exposure of their accessible equity-based holdings to potential share price declines by cashing out exercisable stock options and selling firm stock, after acquisition announcement. This private interest perspective suggests:

Hypothesis 1b. Acquiring CEOs are more likely to exercise stock options after periods during which acquisitions are announced than after nonannouncement periods.

Hypothesis 2b. Acquiring CEOs are more likely to sell stock after periods during which acquisitions are announced than after nonannouncement periods.

Board of Directors' Post–Acquisition Announcement CEO Equity-Based Holdings Changes

Given the difficulties and costs associated with directly monitoring and evaluating CEO actions, directors have long sought mechanisms capable of aligning CEOs' interests with those of shareholders. Because stock options tie CEO wealth directly to shareholder wealth, directors lean heavily on the use of stock options when structuring CEOs' pay packages (Finkelstein et al., 2009). This common practice follows the long-standing assumption that stock options improve CEO-shareholder interest alignment by motivating inherently self-interested top executives to enhance their personal wealth by making investments intended to increase shareholder wealth (Sanders & Hambrick, 2007). To this point, scholars have thoroughly documented the market's acceptance of the assumed benefits stock options provide (e.g., Westphal, 1999).

In addition to structuring CEO annual compensation contract ex ante, however, directors also periodically reconsider and restructure CEOs' stock option holdings in response to new information (Devers et al., 2008). Specifically, when CEOs' interests appear misaligned with those of shareholders, directors often opt to better align those interests by tying CEOs' wealth even more tightly to that of shareholders, through additional CEO stock option awards (Gray & Cannella, 1997). Although other corporate governance mechanisms may be available to directors who attempt to better align CEOs' interests with those of shareholders, granting stock options is clearly the mainstream incentive alignment tool (Finkelstein et al., 2009).

Because directors are responsible for ensuring their CEOs' actions support shareholders' interests, we expect directors to monitor whether their CEOs are developing and implementing firm value–enhancing actions (Devers et al., 2008). Thus, on the one hand, we argue that their post–acquisition announcement stock option grant behaviors provide important insight into whether or not those directors perceive that their CEOs are acting in the long-term interest of shareholders. Specifically, as earlier noted, directors heavily rely on stock option grants as a direct solution to interest misalignment (Core et al., 2003; Sanders & Hambrick, 2007). As a consequence, we argue that if acquiring firm directors perceive that their CEOs are confident in the potential of impending acquisitions to increase long-term firm value, then directors should feel little need to grant their CEOs additional stock options after acquisition announcements. On the other hand, if acquiring firm directors perceive that their CEOs are not highly confident in the value enhancement potential of their newly announced acquisitions, we expect directors to grant their CEOs additional stock options, to more tightly align CEO and shareholder interests by tying CEO pay to long-term firm value. These arguments suggest the following opposing predictions:

Hypothesis 3a. Acquiring firm directors are less likely to grant CEO stock options after periods during which acquisitions are announced than after nonannouncement periods.

Hypothesis 3b. Acquiring firm directors are more likely to grant CEO stock options after periods during which acquisitions are announced than after nonannouncement periods.

Acquisition Announcement Performance and CEOs' Equity-Based Holdings Changes

To this point, we have considered how CEOs and directors adjust CEOs' equity-based holdings following periods during which acquisitions are either announced or not. In the following sections, we consider how market reactions to acquisition announcements (cumulative abnormal returns, or CARs) influence how CEOs and directors manage acquiring CEOs' equity-based holdings following only the periods in which acquisitions are announced. This set of predictions offers a finer-grained perspective than our first set. For example, with our first set of hypotheses, we compared the behavior of CEOs who announced acquisitions with that of those who did not. With these later predictions, we focus on the holding adjustments only for CEOs who announced acquisitions, following the market reaction to those announcements. Testing these arguments permits us to provide greater insight into CEO equity-based compensation changes following acquisition announcements

by allowing us to explore, to some degree, how these reactions reinforce or don't reinforce CEO confidence regarding the potential of their impending acquisitions to enhance long-term firm value.

Value enhancement motives. A firm's market performance (share price performance) reflects investors' perceptions of future firm value (Sharpe, 1970). Thus, acquiring CEOs likely view market reactions (e.g., announcement CARs) to their acquisition announcements as salient signals of investors' expectations of the potential long-term firm value creation inherent in those impending acquisitions. It is reasonable to expect that those market reactions also influence acquiring CEOs' acquisition performance expectations. For example, scholars often argue that shareholder value (e.g., market performance) is the definitive criterion for firm success (Jensen & Meckling, 1976; Jensen & Murphy, 1990). The emphasis investors place on market returns strongly supports this argument (Nyberg, Fulmer, Gerhart, & Carpenter, 2010). With this in mind, if CEOs are confident that their impending acquisitions will create long-term firm value, positive immediate market reactions to their acquisition announcements should further reinforce that confidence (Bandura, 1997; Hiller & Hambrick, 2005). As we argued, if CEOs acquire as a result of value-enhancing motives, they are initially confident in the long-term firm value–enhancing potential of those acquisitions. As a consequence, acquiring CEOs should be even less likely to reduce their equity-based holdings as market responses to their acquisition announcements become more positive (i.e., the relationship between market responses and equity-based holding reductions is negative). Thus, the value-enhancing perspective suggests:

Hypothesis 4a. If an acquisition is announced, the market reaction to that announcement is negatively associated with the likelihood that the acquiring CEO subsequently exercises stock options.

Hypothesis 5a. If an acquisition is announced, the market reaction to that announcement is negatively associated with the likelihood that the acquiring CEO subsequently sells firm stock.

Private interest motives. Considerable research has demonstrated that managers are highly sensitive to loss (Shapira, 1995). As a result, they generally devote more attention and effort to protecting current gains to personal wealth than they do to increasing that wealth (Kahneman & Tversky, 1979; Wiseman & Gomez-Mejia, 1998). In fact, when deciding between alternatives, CEOs focus on augmenting their current wealth gains only when they are confident that little downside risk to current wealth exists (March & Shapira, 1987; Shapira, 1995).

When the market reacts positively to acquisition announcements, the current accumulated value of CEOs' accessible equity-based holdings rises in tandem with share price. CEOs likely perceive these immediate increases in accessible equity-based value as personal wealth gains (Devers et al., 2008). We argued earlier that CEOs who have decided to acquire mainly to satisfy their private interests, rather than primarily for value enhancement reasons, are likely to have low confidence in the long-term value creation potential of their acquisitions. In keeping with loss aversion research, since those CEOs have low confidence in such value creation, any gains in the value of their accessible equity-based holdings that positive announcement-related market reactions produce should exacerbate their perceptions of downside wealth risk and further encourage them to decouple their personal wealth from firm performance (Wiseman & Gomez-Mejia, 1998). In sum, to the extent that CEOs have low confidence in the long-term firm value creation potential of their forthcoming acquisitions, the market performance of acquisition announcements will positively influence CEOs' stock option exercise and firm stock selling behaviors; thus, as market performance increases, those CEOs will reduce their equity-based holdings (i.e., the relationship between market responses and equity-based holdings reductions is positive). Therefore, the private interest perspective suggests:

Hypothesis 4b. If an acquisition is announced, market reaction to that announcement is positively associated with the likelihood that the acquiring CEO subsequently exercises stock options.

Hypothesis 5b. If an acquisition is announced, market reaction to that announcement is positively associated with the likelihood that the acquiring CEO subsequently sells firm stock.

Acquisition Announcement Performance and Board of Directors' CEO Equity-Based Holdings Changes

Earlier, we argued that if directors perceive that their CEOs are acquiring for value enhancement reasons, they will tend not to grant those CEOs

additional stock options after acquisition announcement. Extending our earlier arguments regarding CEOs' responses to market reactions, we further propose that directors also view market reactions to acquisition announcements as important cues indicating whether or not investors perceive acquisitions as having long-term value creation potential. To the extent that directors find these cues salient, immediate positive market reactions to acquisition announcements will likely positively reinforce perceptions of their CEOs' confidence in the long-term value creation potential of impending acquisitions. Accordingly, the more positively the market responds to acquisition announcements, the less likely directors will be to grant their CEOs additional options, as CEOs' and shareholders' interests would appear aligned. In contrast, immediate negative market reactions to acquisition announcements will likely reduce directors' perceptions of their CEOs' confidence in the long-term value creation potential of forthcoming acquisitions, thereby motivating them to grant additional CEO options, to refocus those CEOs on long-term firm value creation. Thus, we propose:

> *Hypothesis 6. If an acquisition is announced, market reaction to that announcement is negatively associated with the likelihood that an acquiring firm's directors subsequently grant CEO stock options.*

METHODS

We collected the data for this study from five sources. We obtained CEO equity-based holdings change data from Thomson Reuters Insider Filing Data (TRIFD). Importantly, TRIFD contains all daily insider activity reported on Securities and Exchange Commission (SEC) forms 3, 4, 5, and 144, including all reported changes in insiders' ownership positions from stock purchases, stock sales, option grants, option exercises, and gifts. Moreover, TRIFD provided access to finer-grained compensation data than have been used in most CEO compensation research that has examined annual compensation awards and adjustments. As a result, TRIFD allowed us to examine the relationship between CEOs' acquisition announcements and CEOs' equity-based holdings changes as they occurred, rather than to examine year-to-year changes.

All other compensation, CEO gender, duality, age, turnover, and tenure data were gathered from Standard & Poor's (S&P's) Executive Compensation (Execucomp) database. We obtained product market diversification, firm size, net income, industry munificence, industry dynamism, and firm stock risk data from the Compustat Industrial Annual File and the Center for Research in Securities Prices (CRSP). Finally, we obtained acquisition data from Thomson Financial's Securities Data Company (SDC) Mergers and Acquisitions database, which includes data on every corporate transaction involving at least 5 percent of the ownership of a public or private company and valued at $1 million or more or of undisclosed value.

We started with a sample frame composed of a possible 2,804 publicly traded firms listed in the Execucomp database. These are large firms with the financial resources to make large strategic investments. Further, because they are publicly traded firms, financial information and CEO pay data are readily available. We included only firms listed in Execucomp from 1996 through 2007 for which complete data were available. Observations were dropped from our sample as a result of lagging variables and because our methodology utilized listwise deletion.

Further, the number of observations in our analyses also varied because of the availability of the unique variables needed to construct specific dependent variables. Those values are noted in Tables 2–5, but we note the general parameters of the sample here. Specifically, we used all observations in our sample, regardless of whether a focal firm acquired another firm in that period or not, to test Hypotheses 1a, 1b, 2a, 2b, 3a, and 3b. Our largest sample size in the various models was 48,911 firm-quarter observations, which we used to test Hypotheses 1a–3b with the dichotomous measures of our dependent variables. Within this set of observations, there were 2,069 firms, averaging 23.6 firm-quarter observations per firm.

We used a reduced sample to test Hypotheses 4a, 4b, 5a, 5b, and 6. With these hypotheses, we examined the influence of market reactions to acquisition announcements on CEO equity-based holdings changes following those announcements. Thus, we only included firm-period observations in which an acquisition announcement occurred. For these analyses, with the dichotomous measures of our dependent variables, our sample consisted of 8,817 quarter-year observations for 1,574 firms operating in a wide cross-section of industry sectors. As Tables 2–5 show, the exact number of observations

varies slightly across analyses owing to missing data on the different dependent variables.

Dependent Variables

TRIFD reports all changes in insiders' ownership positions from stock purchases, stock sales, option grants, option exercises, and gifts for the exact date those transactions were concluded, as reported to the SEC. We collapsed the daily CEO equity-based holding transaction data into quarterly data for four primary reasons. First, it is extremely difficult to predict the optimal day on which to capture a specific CEO equity-based holdings change following a particular acquisition announcement. Second, and relatedly, CEO equity-based holdings changes are highly scrutinized by analysts, market participants, and the media. Thus, some CEOs may refrain from making such adjustments for a short period after acquisition announcements to allow the scrutiny of those announcements to subside. Using quarterly panels allowed us to capture these slightly delayed equity-based holdings adjustments. Third, without collapsing the data, our sample would have been extremely unwieldy, containing over four million observations. Finally, daily models would have been very difficult to estimate, as few CEOs experience equity-based holdings changes on any given date, leading to rare events problems. Although quarterly panels provided the most effective test of our arguments, we also estimated our models using monthly panels and found results consistent with those reported below.

Options exercised. We measured options-exercised data using two variables. First, we measured *options exercised* using a dichotomous variable reflecting whether or not CEOs exercised options during a given quarter (0 = "no," 1 = "yes"). We also calculated a continuous variable, which is the ratio of the number of options exercised during a quarter divided by the number of total options held at the start of the same year.

We used both dichotomous and continuous variables, as each variable type has distinct advantages. On the one hand, in this context dichotomous variables have the advantage that they are less likely than continuous variables to lead to potentially biased conclusions. Specifically, some CEOs' equity-based holdings adjustments are scrutinized much more strongly than others' (e.g., CEOs of large, prominent firms with strong analyst followings). When CEOs of highly scrutinized firms make large equity-based holdings reductions, analysts and the media generally interpret those moves as signals of CEOs' uncertainty regarding the future performance of their firms. Hence, although highly scrutinized CEOs make equity-based holdings adjustments, they are more limited in the amounts they can adjust at any given time than their less-scrutinized counterparts. Another advantage for dichotomous variables is that for a small number of observations, CEOs made very large holdings adjustments, which could have biased the results of models using continuous dependent variables. On the other hand, dichotomous variables treat small and large equity holdings changes as the same. Thus, continuous variables may be more likely to capture an entire range of behavior and not ignore potentially important variance in behavior. Importantly, our results are completely robust across both dichotomous and continuous measures, offering greater confidence in our conclusions.

Stock sold. We similarly used two measures for stock sold. First, *stock sold* was measured using a dichotomous variable reflecting whether or not CEOs sold stock during a quarter (0 = "no," 1 = "yes"). Second, we calculated a ratio of the number of shares of stock sold during a quarter divided by the number of shares of stock owned at the start of the year containing the quarter. To avoid double-counting, we excluded stock sold as a result of option exercise from this variable.

Options granted. Finally, we measured *options granted* using both a dichotomous variable reflecting whether or not CEOs received a stock option grant during a given quarter (0 = "no," 1 = "yes") as well as a continuous measure calculated as the number of options granted in a quarter divided by the number of options held at the start of the year containing the quarter.

Independent Variables

Acquisition announcements. For each quarter in our data set, we operationalized *acquisition announcements* as a dichotomous variable reflecting whether or not a firm announced at least one majority (51 percent or greater) acquisition investment (0 = "no," 1 = "yes") worth at least $1 million in value (if reported) in that quarter. Only announcements of acquisitions that were subsequently completed (at any future time) were included in the sample.

We lagged acquisition announcements one quarter to ensure that they preceded CEO equity-based holdings changes. For example, we used acquisi-

tion announcements in the first quarter of 2006 to predict CEO equity-based holdings changes in the second quarter of that year.

Acquisition announcement market performance. To test Hypotheses 4a, 4b, 5a, 5b, and 6, we operationalized *acquisition announcement performance* as cumulative abnormal returns three days prior and three days following announcements.[2] Announcement CARs reflect investors' present expectations about future value of combined firms (i.e., bidders plus targets [Haleblian et al., 2009]). An important advantage of using short-window CARs is that changes in stock price can be attributed to an acquisition announcement with relative confidence, because the effects of potentially confounding variables are minimized (McWilliams & Siegel, 1997). For firms that undertook multiple acquisitions in a quarter, we averaged the CAR values for all completed acquisitions in that quarter.

Control Variables

We controlled for factors that may influence CEOs' acquisition decisions and equity-based holdings changes. Several controls were only feasible to operationalize in an annual format. Unless otherwise specified, these variables are annual measures, lagged one period, and reflect values reported in each firm's proxy statement, on the last day of the previous fiscal year.

Spread value of exercisable options. The spread value of CEOs' exercisable options can influence both CEO risk behavior and the likelihood of option exercise (Devers et al., 2008). Thus, we controlled for the *spread value of CEOs' exercisable options*. This variable reflects the number of exercisable options each CEO held multiplied by the difference between those stock options' exercise prices and the stock price underlying those options (the spread) at the close of the market, on the last day of the previous fiscal year (Devers et al., 2008).

Total value of compensation less exercisable option spread value. We also controlled for the *total value of CEO compensation* less exercisable option spread value. This variable reflects the sum of the Black and Scholes (1973) value of new option grants and the values of CEOs' salary, annual bonuses, long-term performance plans, and restricted stock.

[2] Findings were robust to other windows (e.g., [−5, 5], [−5, 15]).

CEO gender. Some studies have shown that female CEOs and male CEOs differ in their risk-taking propensities (e.g., Devers et al., 2008). Thus, we controlled for *CEO gender* with a dichotomous variable reflecting whether or not a CEO was a woman (0 = "no," 1 = "yes").

CEO duality, age, and tenure. CEO power has been argued to influence acquisition decisions (Finkelstein et al., 2009); thus, we partialed out the effects of CEO power by controlling for *CEO age* (years), *CEO tenure* (number of years in current position), and *CEO duality* (a dichotomous variable reflecting whether or not a CEO was board chair; 0 = "no," 1 = "yes").

CEO turnover. The degree to which significant strategic actions will be taken and the degree to which a CEO is scrutinized may both be higher when a CEO first takes on the CEO position. Thus, we controlled for *CEO turnover* (whether or not a CEO position had turned over in the prior quarter).

Firm size. Larger firms generally have more resources than smaller firms. Because acquiring other firms requires resources (Hoskisson & Hitt, 1990; Hoskisson, Hitt, Johnson, & Moesel, 1993), we controlled for *firm size* using the natural logarithm of each firm's total assets.

Net income. Because financial capacity can affect CEOs' acquisition propensity, we controlled for acquiring firm's natural logarithm of *net income* (Jensen, 1986; Bromiley, 1991).

Product market diversification. Because some firms use acquisitions as a diversification strategy (Porter, 1987; McColl-Kennedy, Daus, & Sparks, 2003), we controlled for *product market diversification* with the entropy measure, as detailed below:

$$\textit{Product market diversification}_j = \sum i\left[P_{ij} \times \ln\left(\frac{1}{P_{ij}}\right)\right],$$

where P_{ij} is the sales attributed to segment i for firm j and $\ln(1/P_{ij})$ is the weight given to each segment i for firm j, or the natural logarithm of the inverse of its sales. The entropy measure accounts for the segments in which firms operate and their relative significance (Hoskisson et al., 1993; Palepu, 1985).

Firm stock risk (stock beta). How CEOs perceive their stock and options holdings may be influenced by the underlying volatility in their firms' stock (Devers, Cannella, Reilly, & Yoder, 2007a). To account for this, we controlled for *firm stock risk* with values for beta from CRSP.

Industry stability and industry munificence. The state of an industry can influence CEO acquisition behavior (McNamara et al., 2008). Thus, we controlled for industry effects with two measures: *stability* and *munificence*. We computed these indexes by following prior research (e.g., Dess & Beard, 1984; Sutcliffe, 1994). First, we regressed industry sales on a year counter variable. We used five-year windows, with the year of a current focal acquisition announcement as the last year in the panel. We then divided the standard error of the regression for each industry by the mean value of that industry's sales, which indicates industry stability/dynamism. We subtracted this value from 1 so that industry stability reflected the high score on the scale. Moreover, we operationalized munificence by dividing the regression coefficients from each of the above regressions by the mean value of industry sales. Industry munificence reflects the degree of industry growth or decline over the respective period.

Previous quarter stock option exercise and stock sold. It may seem reasonable to argue that CEOs would reduce their equity-based holdings prior to acquisition announcements if they were not confident in the value-enhancing potential of those moves. However, severe penalties are levied against CEOs and other insiders who are convicted of profiting from insider information (Devers et al., 2007a). Therefore, in this study we focus on postacquisition CEO equity-based holdings adjustments. Nevertheless, to rule out any "piling up effect" that may have resulted for CEOs who wanted to exercise options or sell stock prior to acquisition announcements but could not, we controlled for pre-announcement equity-based holdings changes with two dichotomous variables. One variable reflected whether or not CEOs exercised options during the quarter preceding the quarter in which acquisition announcements occurred, and the other reflected whether or not CEOs sold stock during the quarter preceding the quarter in which acquisition announcements occurred (0 = "no," 1 = "yes"). Stock sold as a result of option exercise was excluded from the previous quarter stock-sold variable.

Two-day disclosure requirement. In late 2002, SEC rules were amended to require that all insider transactions reportable under Section 16(a), including CEO stock option grants and exercises and stock sales, must be reported on Form 4 before the end of the second business day (i.e., 5:30 p.m., eastern time) following the day on which the transaction is executed (see SEC Release No. 34-46421). Some have argued that this requirement has helped mitigate the practice of covert stock option backdating (e.g., Lie, 2005). Thus, we controlled for the institution of this amendment with a dichotomous variable (1 = "after 2002," 0 = "2002 and prior").

Unrelated acquisitions. Both risks and potential benefits may differ for related and unrelated acquisitions (Haleblian et al., 2009). Thus, in our analyses that included only quarters during which firms undertook acquisitions, we controlled for whether those acquisitions were related or unrelated. This was operationalized as the percentage of acquisitions in a given quarter of firms that were in the same primary four-digit SIC code as the acquiring firms.

Acquisition value. We used acquisition value (in millions) to control for the potential that acquisition size influenced market reactions to acquisition announcements.

Year effects. Our sample period was 1996 through 2007. To control for potential period effects we included an indicator (dummy) variable for each year (Certo & Semadeni, 2006).

Estimation and Procedures

Because the data for this study are organized into a pooled cross-sectional time series data set, with multiple observations per firm and over time, we used cross-sectional time series regression analyses to estimate our models. Results from the Hausman (1978) specification test indicated that the random-effects model was the appropriate choice for our data. We tested two sets of dependent variables in this study. Because the first set tested all hypotheses using models with dichotomous dependent variables (as described above), we used the random effects logistic regression technique in Stata ("xt-logit," with clustering on a firm) to estimate all models with dichotomous dependent variables (Certo & Semadeni, 2006). Since the second set tested all hypotheses using models with continuous dependent variables (as described above), we used the random-effects tobit regression technique in Stata with censoring on zero ("xttobit," with clustering on a firm) to estimate all models with continuous dependent variables.[3]

[3] We conducted a third set of analyses to examine whether endogeneity was influencing our findings. In this set of analyses, we constructed an instrumental variable comprised of variables argued to influence acquisi-

RESULTS

Table 1 presents the descriptive statistics and correlations for the variables in this study. The modest correlations among the independent variables suggest that multicollinearity is not a problematic issue in our analyses.

Table 2 presents the random-effects logistic and tobit regression results for the analyses in which we test the influence of acquisition announcements on acquiring CEOs' equity-based holdings changes (Hypotheses 1a–2b). Contrary to Hypothesis 1a, but supporting Hypothesis 1b, we found that acquisition announcements positively associated with both our dichotomous measure and continuous measures of subsequent CEO stock option exercise behavior ($p < .001$). Similarly, our tests of Hypotheses 2a and 2b showed that acquisition announcements positively associated with both the dichotomous and continuous measures of subsequent CEO stock sales, supporting Hypothesis 2b ($p < .001$).

With Hypotheses 3a and 3b, we assessed directors' proclivity to grant acquiring CEOs additional stock options following acquisition announcements. As shown in Table 3, supporting Hypothesis 3b over Hypothesis 3a, we found that directors were significantly more likely to grant acquiring CEOs new stock options following quarters with acquisition announcements than they were following quarters without acquisition announcements (dichotomous measure: $p < .05$; continuous measure: $p < .001$).

Table 4 presents the random-effects logistic and tobit regression results for our tests of the influence of market reactions to acquisition announcements on CEOs' equity-based holdings changes (Hypotheses 4a–5b). Supporting Hypothesis 4b over Hypothesis 4a, results showed that market reactions to acquisition announcements positively influenced subsequent CEO stock option exercise actions (dichotomous measure: $p < .001$; continuous measure: $p < .01$). Similarly, our analyses demonstrated that market reactions to acquisition announcements positively influenced subsequent CEO stock sales (dichotomous and continuous measures: $p < .01$), supporting Hypothesis 5b rather than 5a. Finally, as shown in Table 5, we found no support for Hypothesis 6, suggesting market reaction to acquisition announcements did not significantly influence options grants to acquiring CEOs.

DISCUSSION

The purpose of this study was to develop a more complete theoretical understanding of whether CEOs manage their equity-based holdings in ways that suggest they are actually confident in the long-term firm value creation potential of their newly announced acquisitions. We believe our article makes at least two important theoretical contributions. First, by categorizing prior research according to its focus on either value enhancement or private interest motives, we provide a novel synthesis that allows testing competing predictions that flow from these distinct theoretical perspectives. As a consequence, we believe our study lays the initial groundwork for developing a deeper understanding of whether value enhancement or private interest motive arguments better explain how CEOs and directors manage CEOs' equity-based holdings.

Second, the *conventional understanding* that CEOs are highly confident in value creation when undertaking acquisitions predominates in the M&A literature. This value enhancement perspective suggests that acquiring CEOs are confident that their impending acquisitions have the potential to enhance long-term firm value, because they are undertaking acquisitions when they believe that (a) their acquisitions will generate private synergies, (b) they have superior information about acquisition opportunities, (c) their acquisitions will enhance their firms' market power, or (d) they possess superior management prowess in their ability to select and extract value from their targets. In accordance with this view, CEOs often cite *synergies* between their firms and their targets and a *long-term firm value focus* when justifying their acquisition decisions (Haleblian et al., 2009; Mahoney & Mahoney, 1993), as business press headlines making statements such as "CEO announces new acquisition will be immediately accretive" or "provides excellent strategic fit—expected to add more value than it costs by year-end" attest.

As we discussed earlier, the value of equity-based holdings is tied directly to firm value. Thus, if CEOs are motivated to acquire by any of the four value enhancement motives, they will be confident

tion behavior for our *acquisition announcements* independent variable in a two-stage tobit procedure ("ivtobit") in Stata. Results were completely consistent with those of the first two sets reported in Tables 2–5, suggesting that endogeneity is not a concern. These results are available from the authors upon request.

TABLE 1
Descriptive Statistics and Correlations[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Binary of options exercised	0.13	0.34																									
2. Percentage of options exercised	0.02	0.10	.58																								
3. Binary of stock sold	0.14	0.35	.30	.16																							
4. Percentage of stock sold	0.04	0.17	.30	.18	.63																						
5. Binary of options granted	0.16	0.36	.18	.11	.06	.04																					
6. Percentage of options granted	0.02	0.04	.05	.11	.06	.03	.99																				
7. Value of exercised option$_{t-1}$	10.86	47.26	.02	.00	.06	.05	.01	.00																			
8. Value of total compensation$_{t-1}$	5.21	24.17	.01	.01	.01	.01	.02	.02	.18																		
9. CEO gender	0.98	0.13	−.01	.01	.00	−.01	.00	.01	.01	.00																	
10. CEO age	55.35	7.35	.00	−.01	−.01	−.02	−.01	−.01	.03	.00	.07																
11. CEO tenure	7.08	7.38	−.02	.01	.05	−.02	−.03	−.02	.07	−.01	.03	.42															
12. CEO turnover	0.03	0.17	.06	−.02	−.04	−.03	−.01	−.01	.00	.00	−.01	−.06	−.15														
13. CEO duality	0.54	0.50	.02	.03	.07	.02	.07	.06	.05	.04	.04	.16	.14	−.04													
14. Firm size	8.95	46.01	.02	.00	.00	−.01	.03	.02	.07	.11	.02	.05	−.02	.00	.06												
15. Net income	0.06	0.55	.00	.00	.02	.01	.03	.03	.05	.05	.01	.03	.00	−.01	.04	.32											
16. Diversification	0.54	0.56	−.01	−.01	−.03	−.03	.02	.00	.02	.03	.03	.12	−.02	.01	.09	.12	.06										
17. Firm stock risk (β)	1.58	6.36	−.01	−.01	−.01	.00	.01	.01	.00	.01	.00	−.02	.00	.01	−.02	.03	−.01	.00									
18. Industry munificence	1.84	5.98	.00	.00	.01	.00	.02	.01	.06	.06	.00	.02	.00	.00	.03	.17	.12	.06	.01								
19. Industry stability	0.03	0.03	−.01	.00	.00	.00	.01	.01	−.01	.00	.03	.01	.02	.00	.00	.02	−.01	.02	.02	−.05							
20. Acquisition(s)$_{t-1}$	0.19	0.39	.04	.02	.03	.02	.03	.02	.08	.01	.01	−.01	.00	−.01	.05	.09	.07	.09	−.01	.02	.00						
21. Announcement performance[b]	0.00	0.07	.01	.01	.02	.03	−.02	−.01	−.03	.00	−.02	−.01	.00	.01	−.01	−.01	−.01	−.02	.00	.00	.01	−.04					
22. Previous quarter options exercised	0.16	0.43	.18	.07	.14	.12	.02	.02	.06	.03	.00	−.01	.00	−.01	.06	.02	.02	−.01	−.01	.00	−.01	.03	−.02				
23. Previous quarter stock sold	0.18	0.50	.11	.04	.27	.17	.02	.01	.07	.02	−.01	−.01	.05	.00	.05	.00	.01	−.04	−.01	.00	.00	.03	−.03	.35			
24. Two-day disclosure rule	0.43	0.50	.01	−.03	.10	.10	.06	.03	.01	.02	−.04	.01	−.01	−.01	−.06	.06	.05	.05	.14	.11	.03	−.01	.01	.02	.10		
25. Percentage of unrelated acquisitions	0.61	0.47	.00	−.01	−.03	−.04	.00	.00	.00	.01	.01	.06	.01	.01	.02	.06	.03	.20	.01	.00	.01		−.01	−.01	−.04	−.04	
26. Acquisition value	80.77	1,042.87	.01	.00	.01	.01	.02	.01	.06	.04	.00	.01	−.01	.00	.03	.12	.09	.04	.00	.05	−.01	.16	−.04	.02	.02	.01	−.05

[a] $n = 48{,}911$. Coefficients equal to or greater than the .01 level are significant at $p < .05$.
[b] $n = 8{,}817$. Coefficients equal to or greater than the .02 level are significant at $p < .05$.

TABLE 2
CEOs' Post–Acquisition Announcement Equity-Based Holdings Changes

Variables	Options Exercised		Stock Sold	
	Yes/No	Percentage	Yes/No	Percentage
Control				
Value of exercisable options$_{t-1}$	.0000***	.0000*	.0000***	.0000***
	(.0000)	(.0000)	(.0000)	(.0000)
Value of total compensation$_{t-1}$	.0000	.0000	.0000†	.0000
	(.0000)	(.0000)	(.0000)	(.0000)
CEO turnover	−.3096**	−.0671***	−.7138***	−.2508***
	(.0995)	(.0182)	(.1146)	(.0333)
CEO gender	.1499	.0541*	.1357	.0385
	(.1686)	(.0225)	(.1541)	(.0360)
CEO age	−.0059†	−.0010*	−.0128***	−.0027***
	(.0033)	(.0004)	(.0033)	(.0007)
CEO tenure	.0007	.0000	.0212***	.0014†
	(.0036)	(.0004)	(.0034)	(.0007)
CEO duality	.3806***	.0561***	.5709***	.1265***
	(.0411)	(.0057)	(.0413)	(.0097)
Firm size	.0000	.0000	.0000	.0000*
	(.0000)	(.0000)	(.0000)	(.0000)
Net income	.0000	.0000*	.0001	.0000**
	(.0000)	(.0000)	(.0000)	(.0000)
Level of diversification	−.0132	−.0157**	−.1283***	−.0568***
	(.0420)	(.0051)	(.0403)	(.0087)
Firm stock risk	−.0071†	−.0016**	−.0111**	−.0034***
	(.0037)	(.0006)	(.0037)	(.0010)
Industry munificence	.0000	.0000	.0000	.0000
	(.0000)	(.0000)	(.0000)	(.0000)
Industry stability	−.8645	−.1288	.5972	.0056
	(.6884)	(.1027)	(.6630)	(.1686)
Previous quarter options exercised	.2972***	.1202***	.2194***	.0847***
	(.0308)	(.0059)	(.0317)	(.0093)
Previous quarter stock sold	.1945***	.0376***	.5380***	.2038***
	(.0284)	(.0053)	(.0260)	(.0080)
Two-day disclosure rule	−.3998***	−.0726***	.8264***	.2079***
	(.0911)	(.0163)	(.0809)	(.0207)
Year dummy[a]	Included	Included	Included	Included
Hypothesized				
Previous quarter acquisition(s)	.1720***	.0379***	.1369***	.0522***
	(.0377)	(.0067)	(.0377)	(.0108)
χ^2	484.68***	945.81***	1,562.47***	1,859.17***
n	48,911	45,423	48,911	45,916

[a] Results are available on request.
† $p \leq .10$
* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

in the long-term firm value enhancement potential of those acquisitions and will therefore keep their "skin in the game" and hold on to their exercisable stock options and firm stock following acquisition announcements. Nevertheless, although CEOs tend to publicly promote the potential firm value increases inherent in their impending acquisitions, our findings are in contrast to the value enhancement perspective. We find that CEOs often "take money off the table" by cashing out stock options and selling firm stock following such announcements. In other words, CEOs respond to their acquisition announcements by decoupling their personal wealth from their firms' performance. In the

TABLE 3
Directors' Post–Acquisition Announcement CEO Equity-Based Holding Changes

Variables	Options Granted	
	Yes/No	Percentage
Control		
Value of exercisable options$_{t-1}$	.0000	.0000
	(.0000)	(.0000)
Value of total compensation$_{t-1}$	.0000	.0000
	(.0000)	(.0000)
CEO turnover	−.2305**	−1.269*
	(.0821)	(.6329)
CEO gender	.0738	.8810
	(.1285)	(.8322)
CEO age	−.0042	−.0316†
	(.0027)	(.0168)
CEO tenure	−.0176***	−.0803***
	(.0029)	(.0176)
CEO duality	.3993***	2.848***
	(.0340)	(.2246)
Firm size	.0000	.0000
	(.0000)	(.0000)
Net income	.0001**	.0010***
	(.0000)	(.0003)
Level of diversification	.0311	.1985
	(.0329)	(.2003)
Firm stock risk	.0022	.0215
	(.0021)	(.0152)
Industry munificence	.0000	.0000
	(.0000)	(.0002)
Industry stability	.0548	−2.279
	(.5696)	(3.870)
Previous quarter options exercised	−.0891**	−.1048
	(.0330)	(.2457)
Previous quarter stock sold	.0327	.3086
	(.0286)	(.2165)
Two-day disclosure rule	.0841	1.012
	(.0788)	(.5942)
Year dummy[a]	Included	Included
Hypothesized		
Acquisition(s) in prior quarter	.0826*	.9413***
	(.0341)	(.2571)
χ^2	474.43***	459.71***
n	48,911	45,610

[a] Results available on request.
† $p \leq .10$
* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

context of our study, this effect was material, as we found that over a 12-year period, CEOs were 28 percent more likely to exercise stock options and 23.5 percent more likely to sell firm stock in quarters following acquisition announcements than in quarters during which they did not announce acquisitions. These figures reflect our primary analyses—CEOs' decisions to exercise options or sell stock following acquisition announcements—rather than the magnitude of exercise or sale. Moreover, positive market reactions to those acquisition announcements exacerbated those effects. To assess the practical meaning of the market reactions (CARs) findings (shown in Table 4), we calculated

TABLE 4
CEOs' Post–Acquisition Announcement Equity-Based Holdings Changes and Announcement Performance

Variables	Options Exercised		Stock Sold	
	Yes/No	Percentage	Yes/No	Percentage
Control				
Value of exercisable options$_{t-1}$	.0000*	.0000	.0000†	.0000†
	(.0000)	(.0000)	(.0000)	(.0000)
Value of total compensation$_{t-1}$	.0000	.0000	.0000†	.0000
	(.0000)	(.0000)	(.0000)	(.0000)
CEO turnover	−.3896†	−.0663†	−.6957**	−.2169**
	(.2234)	(.0391)	(.2467)	(.0747)
CEO gender	.4226	.1207*	.6039*	.2380*
	(.3163)	(.0578)	(.3082)	(.0960)
CEO age	−.0077	−.0022*	−.0106†	−.0027
	(.0060)	(.0010)	(.0059)	(.0019)
CEO tenure	−.0022	.0010	.0137*	−.0006
	(.0060)	(.0011)	(.0058)	(.0019)
CEO duality	.2529***	.0358**	.3858***	.1025***
	(.0778)	(.0138)	(.0787)	(.0248)
Firm size	.0000	.0000	.0000	.0000*
	(.0000)	(.0000)	(.0000)	(.0000)
Net income	.0000	.0000	.0001	.0000
	(.0001)	(.0000)	(.0001)	(.0000)
Level of diversification	−.0340	−.0087	−.1790*	−.0652**
	(.0708)	(.0125)	(.0712)	(.0223)
Firm stock risk	−.0031	−.0007	−.0119	−.0026
	(.0098)	(.0018)	(.0101)	(.0031)
Industry munificence	.0001*	.0000*	.0000	.0000
	(.0001)	(.0000)	(.0001)	(.0000)
Industry stability	−1.640	−.2076	−1.472	−.7779†
	(1.472)	(.2555)	(1.448)	(.4667)
Previous quarter options exercised	.6172***	.0874***	.0950	.0455*
	(.0654)	(.0121)	(.0687)	(.0213)
Previous quarter stock sold	.1746**	.0227*	.7598***	.1985***
	(.0596)	(.0109)	(.0557)	(.0179)
Two-day disclosure rule	−.2626	−.0362	1.065***	.3181***
	(.1827)	(.0325)	(.1755)	(.0544)
Percentage of unrelated acquisitions in quarter	.0866	.0136	−.0051	−.0040
	(.0749)	(.0133)	(.0737)	(.0231)
Acquisition value	.0000	.0000	.0000	.0000
	(.0000)	(.0000)	(.0000)	(.0000)
Year dummy[a]	Included	Included	Included	Included
Hypothesized				
Acquisition announcement performance	1.337**	.2075**	1.242**	.4327**
	(.4357)	(.0770)	(.4418)	(.1394)
χ^2	207.08***	136.60***	413.67***	329.23***
n	8,817	8,333	8,817	8,342

[a] Results available on request.
† $p \leq .10$
* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

the likelihood that CEOs would exercise options and sell stock following acquisition announcements with both positive and negative CARs. We coded acquisition announcements as receiving a positive reaction if their CARs were at least one standard deviation above the average (7%) for all

TABLE 5
Directors' Post–Acquisition Announcement CEO Equity-Based Holdings Changes and Announcement Performance

Variables	Options Granted	
	Yes/No	Percentage
Control		
Value of exercisable options$_{t-1}$	.0000[†]	.0000
	(.0000)	(.0000)
Value of total compensation$_{t-1}$	.0000	.0000
	(.0000)	(.0000)
CEO turnover	−.3478[†]	−2.588[†]
	(.2031)	(1.505)
CEO gender	.3531	2.227
	(.2959)	(2.117)
CEO age	−.0007	−.0018
	(.0056)	(.0422)
CEO tenure	−.0207***	−.1122**
	(.0057)	(.0434)
CEO duality	.4262***	2.828***
	(.0725)	(.5437)
Firm size	.0000	.0000
	(.0000)	(.0000)
Net income	.0000	.0001
	(.0001)	(.0004)
Level of diversification	.1104†	.7821
	(.0644)	(.4819)
Firm stock risk	−.0058	−.0426
	(.0085)	(.0638)
Industry munificence	.0000	.0002
	(.0001)	(.0004)
Industry stability	.4796	2.340
	(1.299)	(9.769)
Previous quarter options exercised	−.0492	−.4897
	(.0692)	(.5179)
Previous quarter stock sold	.0354	.2705
	(.0599)	(.4460)
Two-day disclosure rule	−.1149	−.3908
	(.1646)	(1.233)
Percentage of unrelated acquisitions in quarter	−.0207	−.1253
	(.0691)	(.5176)
Acquisition value	.0000	.0001
	(.0000)	(.0001)
Year dummy[a]	Included	Included
Hypothesized		
Acquisition announcement performance	.2172	1.46
	(.4271)	(3.186)
χ^2	110.03***	94.98***
n	8,817	8,354

[a] Results available on request.
[†] $p \leq .10$
** $p \leq .01$
*** $p \leq .001$

acquisitions in our sample. We similarly coded acquisition announcements as receiving a negative reaction if their CARs were at least one standard deviation below the average (−7%) for all acquisitions in our sample. These analyses showed that CEOs were 17.4 percent more likely to exercise options and 15 percent more likely to sell stock in quarters following acquisition announcements that

received positive versus negative CARs. These figures also reflect CEOs' decisions to exercise options or sell stock following acquisition announcements. These findings imply that CEOs may not always manage their equity-based holdings in ways that suggest they are highly confident in the long-term firm value creation potential of their impending acquisitions. By challenging convention and demonstrating contradictory results, we believe our study offers a critical theoretical contribution to the M&A, executive compensation, and corporate governance literatures. Specifically, we underscore the need to shift the conventional conversation regarding CEOs' acquisition motives away from a nearly single-minded focus on why CEOs are confident in the long-term value enhancement potential of their acquisitions, to a more diverse set of theoretical and empirical questions that allow scholars to examine if and when CEOs are confident in the long-term value enhancement potential of their acquisitions.

Relatedly, our study complements a nascent line of finance research that has examined the role of CEO overconfidence and acquisition behavior (e.g., Malmendier & Tate, 2005, 2008; Billet & Qian, 2008). This research speaks to the effect of generalized CEO confidence on acquisition likelihood. We examine a distinct but related issue: the situation-specific confidence a CEO exhibits in response to a *particular acquisition*. Our findings that acquiring CEOs sell stock and exercise options following acquisition announcements suggest that those CEOs do not appear to hold high levels of confidence in the long-term value creation potential of particular focal acquisitions. Our findings, coupled with those of Malmendier and Tate (2005, 2008) and Billet and Qian (2008), imply an interesting pattern that suggests that although confident CEOs may tend to undertake acquisitions, they do not necessarily have great confidence in the value enhancement potential of those deals. Instead, these confident CEOs may focus on the private interest benefits associated with acquisitions, such as greater power and compensation, rather than on value enhancement motives, when weighing acquisition decisions. As a result, they feel compelled to decouple their wealth from firm performance, thereby triggering stock sales and option exercises. This suggests that future research should more directly examine the focus of attention by confident CEOs as they undertake acquisitions.

In addition to evaluating CEOs' adjustments to their own equity-based holdings, we also assessed how boards of directors manage CEOs' stock option holdings after acquisition announcement. Our findings show that directors modified CEO equity-based holdings in ways that also appear to challenge value enhancement arguments for acquisitions. Specifically, we found that directors were 16.7 percent more likely to issue stock options in a quarter following acquisition announcement than after quarters during which no acquisitions were announced. This figure reflects directors' decisions to grant options of any amount. We noted earlier that the value enhancement perspective suggests directors should endorse acquisition investments only when they perceive their CEOs are confident of the long-term firm value enhancement potential of those moves. Thus, the finding that directors grant CEOs stock options following acquisition announcements suggests those directors may not sense high levels of confidence from their CEOs regarding these acquisitions. Perhaps more interestingly, however, this result raises the question of why directors might initially support acquisitions if they do not perceive their CEOs are confident in their acquisitions' value creation potential. We speculate that directors may do so for at least two reasons. First, although the performance implications of acquisitions for acquiring firms is fairly disappointing, directors commonly allow (implicitly or explicitly) CEOs to spend trillions of dollars (US) on acquisitions each year (Barkema & Schijven, 2008). This, perhaps, suggests that directors are simply not vigilant when it comes to scrutinizing potential acquisitions. Second, however, similarly to CEOs, directors have private interests that may motivate them to endorse acquisitions. Specifically, directors generally receive greater compensation for serving on the boards of larger firms (Finkelstein et al., 2009). Further, larger firms are generally more visible and therefore perceived by external constituencies as more prominent than smaller firms (Chen, Hambrick, & Pollock, 2008; Pollock, 2004). Thus, directors may benefit from acquisition-related growth, as a seat on a more visible and prominent board can increase their "human" and "social capital" (Finkelstein et al., 2009). Under this view, when considering acquisitions, directors' may be more concerned with short-term firm growth than long-term value creation. In either case (of nonvigilant or self-interested boards), it may be that directors endorse (or at least fail to question) acquisitions during the due diligence process yet subsequently grant CEOs stock options as insurance—an attempt

to focus CEOs on creating long-term firm value from those acquisitions after the decisions are made.

We believe that our contributions also lend further support to the nascent but growing body of research indicating that equity-based compensation may not motivate CEOs to act in the best interests of shareholders (e.g., Harris & Bromiley, 2007; Sanders & Hambrick, 2007).

For example, equity-based compensation forms, particularly stock options, are often argued to motivate CEOs to enhance their personal wealth by making investments intended to increase shareholder wealth. Specifically, agency theorists have assumed that equity-based compensation motivates CEOs to engage in well-calculated risk that have a strong probability of enhancing long-term firm value. However, our findings fail to fully support this view. Although CEOs are increasing firm risk by making acquisitions, this risk generally does not benefit shareholders because, on average, acquisitions do not enhance acquiring firm returns. Moreover, and perhaps more importantly, our results suggest that at the same time as CEOs are increasing firm risk, they may be acting self-interestedly by minimizing their own wealth risk via option exercises and stock sales following acquisition announcements. More specifically, if acquiring CEOs reduce their equity-based compensation to lessen their perceptions of personal downside risk, our findings suggest that acquiring CEOs perceive greater personal downside risk directly following acquisitions than during other periods. This finding implies a lack of CEO confidence in the value enhancement potential of impending acquisitions. In other words, if acquiring CEOs were highly confident in those acquisitions, they would not feel the need to decouple their wealth from firm value. Instead, their confidence in the upside potential of their firms' acquisitions would drive them to hold their options and stock. Nevertheless, given the nature of our data, we cannot completely rule out the idea that some CEOs may view acquisitions as a "liquidity event" and thus simply feel the need to rebalance their portfolios to diversify their wealth via equity-based compensation reductions. Thus, we encourage future research that examines this important question.

Limitations and Future Research

Below, we emphasize two key areas in which we believe future research can continue to advance understanding of CEO M&A behavior. First, a key strength of our study is our use of the Thomson Reuters Insider Filing Data, which, as earlier noted, provided access to finer-grained data than have been used in most CEO compensation research. Specifically, in contrast to the majority of compensation studies that have used annual CEO compensation data from the Execucomp database (see Devers et al., 2007a), we augmented Execucomp data with the TRIFD daily insider activities data. In doing so we created a data set that allowed us to examine the relationship between CEOs' acquisition announcements and their equity-based holdings adjustments as those changes occurred. However, we acknowledge that our methodological approach has some limitations. For example, our findings suggest that some CEOs are motivated to opportunistically acquire other firms to maximize their own private benefits and, thus, subsequently reduce their wealth risk exposure by restructuring their equity-based holdings after acquisition announcement. Nevertheless, since we used proxies for CEOs' acquisition performance confidence, we could not directly test CEO motivations for making acquisitions. Therefore, we see promise in research that attempts to augment our initial findings by measuring CEOs' *expressed* acquisition performance confidence in the context of real acquisition decision making and/or in primary data settings (e.g., surveys and laboratory studies). Doing so could further advance understanding of M&A actions by developing a deeper understanding of the cognitive decision-making processes that drive CEO acquisition behavior.

Second, one might be tempted to argue that if CEOs were not approaching acquisitions from a value enhancement perspective, they could reduce their equity-based holdings prior to acquisition announcements. However, as we noted earlier, CEOs who are found to have profited from insider trading face stiff legal sanctions and, often, termination (Devers et al., 2007a). Thus, our assessment of CEO acquisition confidence focuses on ex post CEO equity–based holdings adjustments. Nevertheless, it could be that CEOs' ex ante acquisition confidence varies from their ex post acquisition confidence. By controlling for preannouncement equity-based holdings changes, we ruled out the influence of a "piling up effect" regarding CEOs who may have wanted to exercise options or sell stock prior to acquisition announcements but felt unable to do so. Even so, we encourage future researchers to examine whether and how ex ante CEO confidence

may influence CEO acquisition decisions and ex post acquisition confidence.

Third, although our results suggest that private interest motives may dominate CEOs' acquisition behavior, situations likely exist in which value enhancement motives drive such actions. For example, it could be possible that CEOs of family-owned firms (Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007), humble CEOs (e.g., Owens & Hekman, 2012), or those with lower-than-average risk tolerances (Finkelstein et al., 2009) may be more (or less) likely to acquire for value enhancement, rather than private interest, motives.[4] Pursuing such extensions may prove fruitful for corporate strategy and governance scholars.

Fourth, in addition to pure self-interest, another possible explanation as to why CEOs acquire is that they may be driven, in part, by competitive institutional pressures, such as those that trigger merger waves (Abrahamson & Rosenkopf, 1993; Fiol & O'Connor, 2003). Accordingly, CEOs and directors may feel compelled to make acquisitions to respond to those of their competitors (McNamara et al., 2008). In such instances, CEOs and directors may reflect on their acquisitions after announcement, question their long-term performance potential, and adjust CEO equity–based holdings accordingly.

Fifth, and relatedly, it could be that CEOs believe that acquisitions have both value enhancement and private interest benefits. If this is the case, we would expect those CEOs to have high confidence in their acquisitions' ability to jointly enhance long-term firm value and their own private benefits because they attend to both motives. Although explicitly testing these propositions was beyond the scope of this project, these questions provide fertile research opportunities for M&A, executive compensation, and governance scholars.

Sixth, we did not develop arguments about the power dynamics between board members and CEOs. As a result, the issues of how and whether directors effectively vet proposed acquisitions fall outside the scope of our study. However, the literature suggests that CEOs have a great deal of discretion in undertaking strategic actions. This view is consistent with governance research suggesting that directors typically do not have a strong influence on firm performance (see Dalton, Daily, Ellstrand, & Johnson, 1998; Dalton, Daily, Johnson, & Ellstrand, 1999). If directors were effective in assessing proposed acquisitions, we would expect to see stronger average acquisition performance. In short, we suspect that the valiant efforts of directors captured in anecdotes are unfortunately the exception rather than the rule. However, examining the impact of the dynamics between CEOs and directors on acquisition performance and postacquisition actions is an important future research opportunity, and we strongly encourage work in this area.

Finally, directors may have access to other corporate governance mechanisms in addition to stock options with which they can attempt to align CEOs' interests with those of shareholders. However, stock options have become the mainstream incentive alignment tool (Finkelstein et al., 2009; Sanders & Hambrick, 2007). Given that ours is an initial examination of whether CEOs act as if they are confident in the value creation potential of their acquisitions, we focused on stock options in our director-related hypotheses. Nevertheless, examining how other corporate governance mechanisms and compensation arrangements may affect CEO acquisition behaviors and equity-based holdings changes offers scholars interesting research opportunities.

Conclusion

Although CEOs often confidently "talk the talk" by pronouncing expected synergies and enhanced long-term value when justifying acquisitions, our results suggest they may not always "walk the talk," as they are more likely to exercise stock options and sell stock soon after announcing those acquisitions. Hence, our study developed a more complete theoretical understanding of whether CEOs and directors act in ways that suggest they are actually confident in the long-term firm value creation potential of their newly announced acquisitions. To the extent that CEOs' equity-based holdings changes reflect acquisition confidence, or a lack thereof, our results suggest that neither CEOs nor directors are highly confident that their impending acquisitions will generate long-term value. We hope our study provides a foundation that scholars can further build on to advance understanding of the manner in which acquiring CEOs and directors view their acquisition decisions.

[4] We thank our anonymous reviewers for these suggestions.

REFERENCES

Abrahamson, E., & Rosenkopf, L. 1993. Institutional and competitive bandwagons: Using mathematical modeling as a tool to explore innovation diffusion. ***Academy of Management Review,*** 183: 487–517.

Agrawal, A., Jaffe, J. F., & Mandelker, G. N. 1992. The post-merger performance of acquiring firms: A reexamination of an anomaly. ***Journal of Finance,*** 47: 1605–1621.

Amihud, Y., & Lev, B. 1981. Risk reduction as a managerial motive for conglomerate mergers. ***Bell Journal of Economics,*** 12: 605–617.

Asquith, P. 1983. Merger bids, uncertainty, and stockholder returns. ***Journal of Financial Economics,*** 11: 51–83.

Bandura, A. 1997. ***Self-efficacy: The exercise of control.*** New York: Freeman.

Barkema, H. G., & Schijven, M. 2008. How do firms learn to make acquisitions? A review of past research and an agenda for the future. ***Journal of Management,*** 34: 594–634.

Bartov, E., & Mohanram, P. 2004. Private information, earnings manipulations, and executive stock-option exercises. ***Accounting Review,*** 79: 889–920.

Benartzi, S., & Thaler, R. H. 1999. Risk aversion or myopia? Choices in repeated gambles and retirement investments. ***Management Science,*** 45: 364–381.

Berle, A., & Means, G. 1932. ***The modern corporation and private property.*** New York: Harcourt.

Bettis, J. C., Bizak, J. M., & Lemmon, M. L. 2005. Exercise behavior, valuation, and the incentive effects of employee stock options. ***Journal of Financial Economics,*** 76: 445–470.

Billet, M. T., & Qian, Y. 2008. Are overconfident CEOs born or made? Evidence of self-attribution bias from frequent acquirers. ***Management Science,*** 54: 1037–1051.

Black, F., & Scholes, M. 1973. Pricing of options and corporate liabilities. ***Journal of Political Economy,*** 81: 637–654.

Bliss, R. T., & Rosen, R. J. 2001. CEO compensation and bank mergers. ***Journal of Financial Economics,*** 611: 107–138.

Bloom, M., & Milkovich, G. T. 1998. Relationships among risk, incentive pay, and organizational performance. ***Academy of Management Journal,*** 413: 283–297.

Bromiley, P. 1991. Testing a causal model of corporate risk taking and performance. ***Academy of Management Journal,*** 34: 37–59.

Cannella, A. A., Jr., & Hambrick, D. C. 1993. Effects of executive departures on the performance of acquired firms. ***Strategic Management Journal,*** 14: 137–152.

Carow, K., Heron, R., & Saxton, T. 2004. Do early birds get the returns? An empirical investigation of early mover advantages in acquisitions. ***Strategic Management Journal,*** 25: 563–585.

Certo, S. T., & Semadeni, M. 2006. Strategy research and panel data: Evidence and implications. ***Journal of Management,*** 32: 449–471.

Chatterjee, S. 1992. Source of value in takeovers: Synergy or restructuring implications for target and bidder firms. ***Strategic Management Journal,*** 13: 267–286.

Chen, G. L., Hambrick, D. C., & Pollock, T. G. 2008. Puttin' on the ritz: Pre-IPO enlistment of prestigious affiliates as deadline-induced remediation. ***Academy of Management Journal,*** 51: 954–975.

Core, J. E., Guay, W. R., & Van Buskirk, A. 2003. Market valuations in the New Economy: An investigation of what has changed. ***Journal of Accounting and Economics,*** 34: 43–67.

Core, J. E., & Larcker, D. F. 2002. Performance consequences of mandatory increases in executive stock ownership. ***Journal of Financial Economics,*** 64: 317–340.

Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. 1998. Meta-analytic reviews of board composition, leadership structure, and financial performance. ***Strategic Management Journal,*** 19: 269–290.

Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. 1999. Number of directors and financial performance: A meta-analysis. ***Academy of Management Journal,*** 42: 674–686.

Datta, D. K., Pinches, G. E., & Narayanan, V. K. 1992. Factors influencing wealth creation from mergers and acquisitions: A meta-analysis. ***Strategic Management Journal,*** 13: 67–84.

Datta, S., Iskandar-Datta, M., & Raman, K. 2001. Executive compensation and corporate acquisition decisions. ***Journal of Finance,*** 56: 2299–2336.

Dess, G. G., & Beard, D. W. 1984. Dimensions of organizational task environments. ***Administrative Science Quarterly,*** 29: 52–73.

Devers, C. E., Cannella, A. A., Jr., Reilly, G. P., & Yoder, M. E. 2007a. Executive compensation: A multidisciplinary review of recent developments. ***Journal of Management,*** 33: 1016–1072.

Devers, C. E., McNamara, G., Wiseman, R. M., & Arrfelt, M. 2008. Moving closer to the action: Examining compensation design effects on firm risk. ***Organization Science,*** 19: 548–566.

Devers, C. E., Wiseman, R. M., & Holmes, R. M. 2007b.

The effects of endowment and loss aversion in managerial stock option valuation. ***Academy of Management Journal,*** 50: 191–208.

Dodd, P. 1980. Merger proposals, management discretion, and stockholder wealth. ***Journal of Financial Economics,*** 8: 105–137.

Finkelstein, S., Hambrick, D. C., & Cannella, A. A., Jr. 2009. ***Strategic leadership: Theory and research on executives, top management teams, and boards.*** Oxford, UK: Oxford University Press.

Fiol, C. M., & O'Connor, E. J. 2003. Waking up! Mindfulness in the face of bandwagons. ***Academy of Management Review,*** 281: 54–70.

Gomez-Mejia, L. R., Haynes, K., Nunez-Nickel, M., Jacobson, K. J. L., & Moyano-Fuentes, J. 2007. Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. ***Administrative Science Quarterly,*** 52: 106–137.

Gray, S. R., & Cannella, A. A., Jr. 1997. The role of risk in executive compensation. ***Journal of Management,*** 23: 517–540.

Grinstein, Y., & Hribar, P. 2004. CEO compensation and incentives: Evidence from M&A bonuses. ***Journal of Financial Economics,*** 73: 119–143.

Haleblian, J., Devers, C. E., McNamara, G., Carpenter, M. A., & Davison, R. 2009. Taking stock of what we know about mergers and acquisitions: A review and research agenda. ***Journal of Management,*** 35: 469–502.

Hambrick, D. C., Finkelstein, S., & Mooney, A. C. 2005. Executive job demands: New insights for explaining strategic decisions and leader behaviors. ***Academy of Management Review,*** 30: 472–491.

Harford, J., & Li, K. 2007. Decoupling CEO wealth and firm performance: The case of acquiring CEOs. ***Journal of Finance,*** 62: 917–949.

Harris, J., & Bromiley, P. 2007. Incentives to cheat: The influence of executive compensation and firm performance on financial misrepresentation. ***Organization Science,*** 18: 350–367.

Hausman, J. A. 1978. Specification tests in econometrics. ***Econometrica,*** 466: 1251–1271.

Hayward, M. L. A., & Hambrick, D. C. 1997. Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. ***Administrative Science Quarterly,*** 42: 103–127.

Heath, C., Huddart, S., & Lang, M. 1999. Psychological factors and stock option exercise. ***Quarterly Journal of Economics,*** 114: 601–627.

Henderson, A. D., & Fredrickson, J. W. 1996. Information-processing demands as a determinant of CEO compensation. ***Academy of Management Journal,*** 39: 575–606.

Hiller, N. J., & Hambrick, D. C. 2005. Conceptualizing executive hubris: The role of (hyper-)core self-evaluations in strategic decision-making. ***Strategic Management Journal,*** 26: 297–319.

Hitt, M. A., Ireland, R. D., & Harrison, J. S. 2001. Mergers and acquisitions: A value creating or value destroying strategy. In M. A. Hitt, R. E. Freeman, & J. S. Harrison (Eds.), ***The Blackwell handbook of strategic management:*** 384–408. Malden, MA: Blackwell.

Holcomb, T. R., Holmes, R. M., & Hitt, M. A. 2006. Diversification to achieve scale and scope: The strategic implications of resource management for value creation. In J. A. C. Baum, S. Dobrev, & A. van Witteloostuijin (Eds.), ***Advances in strategic management: Ecology and strategy,*** vol. 23: 549–587. Oxford: JAI-Elsevier.

Hoskisson, R. E., & Hitt, M. A. 1990. Antecedents and performance outcomes of diversification: A review and critique of theoretical perspectives. ***Journal of Management,*** 162: 461–509.

Hoskisson, R. E., Hitt, M. A., Johnson, R. A., & Moesel, D. D. 1993. Construct validity of an objective (entropy) categorical measure of diversification strategy. ***Strategic Management Journal,*** 14: 215–235.

Hoskisson, R. E., & Turk, T. A. 1990. Corporate restructuring: Governance and control limits of the internal capital market. ***Academy of Management Review,*** 153: 459–477.

Huddart, S., & Lang, M. 2003. Information distribution within firms: Evidence from stock option exercises. ***Journal of Accounting and Economics,*** 34: 3–31.

Jarrell, G. A., & Poulson, A. B. 1987. The returns to acquiring firms in tender offers: Evidence from three decades. ***Financial Management,*** 18(3): 12–19.

Jensen, M. C. 1986. Agency costs of free cash flow, corporate finance, and takeovers. ***American Economic Review,*** 762: 323–329.

Jensen, M. C., & Meckling, W. H. 1976. Theory of the firm: Managerial behavior, agency costs, and ownership structure. ***Journal of Financial Economics,*** 3: 305–360.

Jensen, M. C., & Murphy, K. J. 1990. Performance pay and top management incentives. ***Journal of Political Economy,*** 98: 225–264.

Kahneman, D., & Tversky, A. 1979. Prospect theory: An analysis of decision under risk. ***Econometrica,*** 47: 263–290.

Kim, E. H., & Singal, V. 1993. Mergers and market power: Evidence from the airline industry. ***American Economic Review,*** 83: 549–569.

King, D. R., Dalton, D. R., Daily, C. M., & Covin, J. G. 2004. Meta-analyses of post-acquisition performance: Indications of unidentified moderators. ***Strategic Management Journal,*** 252: 187–200.

Kroll, M., Walters, B. A., & Wright, P. 2008. Board vigilance, director experience, and corporate outcomes. ***Strategic Management Journal,*** 29: 363–382.

Langetieg, T. C., Haugen, R. A., & Wichern, D. W. 1980. Merger and stockholder risk. ***Journal of Financial and Quantitative Analysis,*** 15: 689–717.

Lie, E. 2005. On the timing of CEO stock option awards. ***Management Science,*** 51: 802–812.

Loderer, C., & Martin, K. 1992. Postacquisition performance of acquiring firms. ***Financial Management,*** 21(3): 69–79.

Mahoney, J. M., & Mahoney, J. T. 1993. An empirical investigation of the effect of corporate charter antitakeover amendments on stockholder wealth. ***Strategic Management Journal,*** 14: 17–31.

Malatesta, P. H. 1983. The wealth effect of merger activity and the objective functions of merging firms. ***Journal of Financial Economics,*** 11: 155–181.

Malmendier, U., & Tate, G. 2005. CEO overconfidence and corporate investment. ***Journal of Finance,*** 60: 2661–2700.

Malmendier, U., & Tate, G. 2008. Who makes acquisitions? CEO overconfidence and the market's reaction. ***Journal of Financial Economics,*** 89: 20–43.

March, J. G., & Shapira, Z. 1987. Managerial perspectives on risk and risk-taking. ***Management Science,*** 33: 1404–1418.

Matta, E., & McGuire, J. 2008. Too risky to hold? The effect of downside risk, accumulated equity wealth, and firm performance on CEO equity reduction. ***Organization Science,*** 19: 567–580.

McColl-Kennedy, J. R., Daus, C. S., & Sparks, B. A. 2003. The role of gender in reactions to service failure and recovery. ***Journal of Service Research,*** 6: 66–82.

McNamara, G. M., Haleblian, J., & Dykes, B. J. 2008. The performance implications of participating in an acquisition wave: Early mover advantages, bandwagon effects, and the moderating influence of industry characteristics and acquirer tactics. ***Academy of Management Journal,*** 51: 113–130.

McWilliams, A., & Siegel, D. 1997. Event studies in management research: Theoretical and empirical issues. ***Academy of Management Journal,*** 40: 626–657.

Milgrom, P., & Roberts, J. 1992. ***Economics, organization, and management.*** London: Prentice Hall.

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. 2003. ***Do shareholders of acquiring firms gain from acquisitions?*** NBER working papers, vol. w9523. Cambridge, MA: National Bureau of Economic Research.

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. 2004. Firm size and the gains from acquisitions. ***Journal of Financial Economics,*** 73: 201–228.

Morrow, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. 2007. Creating value in the face of declining performance: Firm strategies and organizational recovery. ***Strategic Management Journal,*** 28: 271–283.

Murphy, K. J. 1999. Executive compensation. In O. Ashenfelter & D. Card (Eds.), ***Handbook of labor economics:*** 2485–2506. Amsterdam: Elsevier.

Myers, S., & Majluf, N. 1984. Corporate financing and investment decisions when firms have information that investors do not have. ***Journal of Financial Economics,*** 13: 187–221.

Nyberg, A. J., Fulmer, I. S., Gerhart, B., & Carpenter, M. A. 2010. Agency theory revisited: CEO return and shareholder interest alignment. ***Academy of Management Journal,*** 53: 1029–1049.

Owens, B. P., & Hekman, D. R. 2012. Modeling how to grow: An inductive examination of humble leader behaviors, contingencies, and outcomes. ***Academy of Management Journal,*** 55: 787–818.

Pablo, A. L., Sitkin, S. B., & Jemison, D. B. 1996. Acquisition decision-making processes: The central role of risk. ***Journal of Management,*** 22: 723–746.

Palepu, K. 1985. Diversification strategy, profit performance and the entropy measure. ***Strategic Management Journal,*** 6: 239–255.

Pollock, T. G., Rindova, V. P., & Maggitti, P. G. 2008. Market watch: Information and availability cascades among the media and investors in the U.S. IPO market. ***Academy of Management Journal,*** 5: 335–358.

Porter, M. E. 1987. From competitive advantage to corporate strategy. ***Harvard Business Review,*** 65(May): 43–59.

Prager, R. A. 1992. The effects of horizontal mergers on competition: The case of the Northern Securities Company. ***Rand Journal of Economics,*** 23: 123–133.

Roll, R. 1986. The hubris hypothesis of corporate takeovers. ***Journal of Business,*** 59: 197–216.

Sanders, W. G. 2001. Behavioral responses of CEOs to stock ownership and stock option pay. ***Academy of Management Journal,*** 44: 477–492.

Sanders, W. G., & Hambrick, D. C. 2007. Swinging for the fences: The effects of CEO stock options on company risk taking and performance. ***Academy of Management Journal,*** 50: 1055–1078.

Seth, A., Song, K. P., & Pettit, R. R. 2002. Value creation and destruction in cross-border acquisitions: An em-

pirical analysis of foreign acquisitions of US firms. ***Strategic Management Journal,*** 23: 921–940.

Shapira, Z. 1995. ***Risk taking.*** New York: Russell Sage.

Sharpe, W. 1970. ***Portfolio theory and capital markets.*** New York: McGraw-Hill.

Sutcliffe, K. M. 1994. What executives notice: Accurate perceptions in top management teams. ***Academy of Management Journal,*** 37: 1360–1378.

Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. 2000. How much does performance matter? A meta-analysis of CEO pay studies. ***Journal of Management,*** 26: 301–339.

Walsh, J. P., & Seward, J. K. 1990. On the efficiency of internal and external corporate-control mechanisms. ***Academy of Management Review,*** 153: 421–458.

Westphal, J. D. 1999. Collaboration in the boardroom: Behavioral and performance consequences of CEO-board social ties. ***Academy of Management Journal,*** 42: 7–24.

Wiseman, R. M., & Gomez-Mejia, L. R. 1998. A behavioral agency model of managerial risk taking. ***Academy of Management Review,*** 23: 133–153.

Cynthia E. Devers (devers@bus.msu.edu) is an associate professor in the Broad College of Business at Michigan State University. She received her Ph.D. in business administration from the Broad College of Business at Michigan State University. Her research draws from behavioral and social-psychological perspectives to examine the roles formal and informal governance mechanisms and social evaluations play in individual-, group-, and organization-level behavior and outcomes.

Gerry McNamara (mcnamara@bus.msu.edu) is a professor of management at Michigan State University's Broad College of Business. He received his Ph.D. from the University of Minnesota. His research focuses on the influence of market dynamics, competitive pressures, organizational characteristics, executive compensation, and top manager characteristics on strategic decision making.

Jerayr ("John") Haleblian (jerayr@uga.edu) is an associate professor at the Terry College of Business at the University of Georgia. He received his Ph.D. from the University of Southern California. His research interests include mergers and acquisitions, corporate governance, and organizational learning.

Michele E. Yoder (meyoder@umich.edu) is an assistant professor of strategic management at the University of Michigan–Dearborn. She received her Ph.D. from the University of Wisconsin at Madison. Her research interests include the effects of executive compensation on strategic decisions and firm performance, as well as the determinants of executive compensation.

Copyright of Academy of Management Journal is the property of Academy of Management and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.