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TOP MANAGEMENT TEAM INCENTIVE HETEROGENEITY, STRATEGIC INVESTMENT BEHAVIOR, AND PERFORMANCE: A CONTINGENCY THEORY OF INCENTIVE ALIGNMENT

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Research summary: *We develop and test a contingency theory of the influence of top management team (TMT) performance-contingent incentives on manager–shareholder interest alignment. Our results support our theory by showing that although TMTs engage in significantly higher levels of acquisition investment when their average incentive levels increase, investors' responses to those large investments are generally negative. More importantly, however, we further find that within-TMT incentive heterogeneity conditions that effect, such that investors evaluate TMTs' large acquisition investments more positively as the variance in those top managers' incentive values increases. Thus, within-TMT incentive heterogeneity appears to increase manager–shareholder interest alignment, in the context of large acquisition investments.*

Managerial summary: *We find that as the average value of TMTs' incentives increase, relative to their total pay, they invest more in acquisitions and investors' respond negatively to the announcement of those deals. However, we further show that investors respond more positively to acquisitions announced by TMTs whose members' incentive values vary (some TMT members hold higher incentives and others hold lower). Results imply that when TMT members hold differing incentives levels, they approach investments from divergent perspectives, scrutinize those investments more heavily, and make better decisions, relative to TMTs with similar incentives. They also suggest that boards seeking tighter manager–shareholder interest alignment may benefit from introducing variance into TMT members' incentive structures, as doing so appears to create divergent preferences that can improve team decision making.*

INTRODUCTION

Organizational theorists have long recognized the importance of aligning managers' interests with those of their employing organizations (cf., Barnard, 1938). Because monitoring and evaluating managerial behavior is difficult and expensive, incentive alignment proponents suggest

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an alternative—aligning those interests through reward systems that link a portion of managers' pay to observable firm outcomes (Bottom *et al.*, 2006; Gerhart and Rynes, 2003). In the past few decades, corporate governance and executive compensation scholars from several fields have drawn on incentive alignment arguments to defend or even advocate the use of conditional rewards, such as stock options, restricted stock, and bonus plans that tie top management team (TMT) pay to firm returns (Finkelstein, Hambrick, and Cannella, 2009). Under this view, top managers are assumed to be naturally risk averse, and, unless incentivized to do otherwise, prefer conservative investments that pose minimal threats to their future compensation and employment, yet create agency costs for risk-neutral shareholders (Hall and Liebman, 1998; Jensen and Meckling, 1976). Thus, incentive alignment proponents argue that high levels of incentives should improve manager–shareholder interest alignment by motivating inherently self-interested managers to enhance their personal wealth through investments that increase shareholder wealth (Eisenhardt, 1989). Thus far, however, growing evidence has challenged this hypothesis (Devers *et al.*, 2013; Finkelstein *et al.*, 2009; Sanders and Hambrick, 2007).

In this study, we advance a contingency theory of incentive alignment, in which the variance in TMT members' incentive portfolio values (*within*-TMT incentive heterogeneity) conditions the influence of performance-contingent incentives on manager–shareholder interest alignment. We develop our theory by drawing on research examining the influence of incentive levels on top managers' strategic investments. This work has shown that when CEOs hold high levels of incentives, they often make overly risky strategic investments that compromise shareholders' interests. Conversely, this research also suggests that managers who are not highly incentivized will favor strategic investments that are more conservative than fully diversified investors would prefer, which can also misalign interests (Datta, Iskandar-Datta, and Raman, 2001; Devers *et al.*, 2008; Larcker, 1983). We contribute to this line of work in two ways. First, we extrapolate these findings to the team level to argue that when TMTs hold high *average* incentive levels they are more likely to make larger, firm-risk-increasing strategic investments that investors evaluate poorly, relative to when they hold low *average* incentive levels. Second, we further advance this research by moving beyond average incentive levels, to examine how within-TMT incentive heterogeneity, or the variance among TMT members' incentive portfolio levels, influences the association between average TMT incentives and TMT strategic investments. Specifically, as earlier noted, high and low incentives can motivate top managers to evaluate strategic alternatives differently (Finkelstein *et al.*, 2009). It follows, then, that members *within* the same TMT may favor divergent strategic actions when their incentive levels differ.

We draw on group decision-making research to build theory regarding how within-TMT incentive heterogeneity may influence the impact of TMTs' average incentive levels on their strategic investments and investors' evaluations of those actions. Specifically, group decision-making work has shown that team members with heterogeneous preferences tend to raise and debate more divergent issues during decision-making processes than do teams with more homogeneous preferences (Amason and Sapienza, 1997; Miller, Burke, and Glick, 1998; Milliken and Martins, 1996; Williams and O'Reilly, 1998). Because such discourse increases members' scrutiny of issues, within-group heterogeneity can slow decision consensus (Amason, 1996; Eisenhardt and Schoonhoven, 1990; Jehn, 1995; Michel and Hambrick, 1992; Simsek *et al.*, 2005). At the same time, under some conditions, the less harmonious evaluation that within-team heterogeneity motivates can mitigate decision errors and, in turn, increase outcome quality (Jehn, 1995; Moon *et al.*, 2003; Pelled, Eisenhardt, and Xin, 1999; Simons and Peterson, 2000).

As earlier noted, although we expect TMTs with high average incentives to make strategic investments that investors evaluate negatively, building on the group decision-making research above, we propose that within-TMT incentive heterogeneity attenuates this effect. We test our theory in the context of acquisition investments. Our results support these predictions.

We believe our findings advance the strategic management literature in three important ways. First, prior research on executive compensation tends to assume that although TMT colleagues' total compensation values may vary, their pay packages are similarly structured, such that they hold comparable proportions of contingent and noncontingent compensation (Finkelstein *et al.*, 2009). Thus, while an extensive body of research

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has examined the effects of *total* pay heterogeneity among individuals and teams, between levels (e.g., superior and subordinate), or among peers (Connelly *et al.*, 2016), research examining heterogeneity in the *structure* of pay at any level is virtually nonexistent. We believe this is an important omission.

Specifically, scholars drawing on social comparison and fairness arguments (Adams, 1965; Festinger, 1954) have proposed and found that total pay heterogeneity (pay dispersion) can often negatively affect individual and firm behaviors and outcomes (Fredrickson, Davis-Blake, and Sanders, 2010; Grund and Westergaard-Nielsen, 2008; Siegel and Hambrick, 2005). However, as we explain below, top managers have some discretion over the structure of their pay (and the incentives they hold)—more so than over the total amount of their pay. Consequently, they can, in part, influence their incentive levels and, thus, indirectly affect within-TMT incentive heterogeneity. As a result, within-TMT incentive heterogeneity may lead to different outcomes than do other more commonly studied forms of pay level heterogeneity. Specifically, as we explain, within-TMT incentive heterogeneity produces divergence in top managers' evaluations of alternatives with significant performance and wealth consequences, which ultimately enhances the quality of their strategic decisions. Thus, we argue that investors will respond more positively to large strategic investments highly incentivized TMTs make, when within-TMT incentive heterogeneity is higher, as opposed to lower. Our findings support our arguments and advance compensation research by introducing an important and conceptually unique form of pay heterogeneity and the critical contingent role it plays in interest alignment.

Second, the majority of prior executive compensation research has conceptualized, explicitly or implicitly, TMTs as fairly likeminded, socially integrated bodies, composed of members with congruent opinions and decision preferences (Devers *et al.*, 2007a; Siegel and Hambrick, 2005). In contrast, our results offer important empirical evidence supporting other arguments suggesting that although scholars often treat them as cohesive, unified teams, TMTs are actually comprised of individuals with decision preferences that vary in accordance with their pay structures (Hambrick, Cho, and Chen, 1996). Perhaps more importantly, our results show that such variation can lead to behavioral and performance outcomes that differ materially from those suggested by research that treats top teams as socially integrated units. Thus, our findings have important implications for compensation, governance, and upper-echelons research. Finally, revealing the conditional nature of within-team incentive heterogeneity on TMT investment decisions adds important practical insights to compensation design by underscoring the importance of aligning incentives at the team and individual levels.

INCENTIVES AND THE PURSUIT OF VALUE MAXIMIZATION

Scholars have long emphasized the importance of aligning the interests of managers with their respective owners (Berle and Means, 1932). Regarding pay, researchers generally ground interest alignment arguments in assumptions of self-interest and risk aversion (Eisenhardt, 1989). A key assumption is that because shareholders can diversify their holdings across firms, they are risk-neutral concerning specific actions. Building on the financial–economic perspective that larger returns derive from larger risks (Sharpe, 1970), shareholders should prefer managerial actions offering the highest potential expected firm value creation (Gomez-Mejia and Wiseman, 1997).

Conversely, because top managers' financial, social, and human capital are heavily tied to their employing firms, scholars assume that in the absence of appropriate inducements, those managers will tend to avoid actions that place this capital at risk (Fama and Jensen, 1983). Managerial risk aversion can motivate value protection at the expense of value maximization, thereby misaligning interests (Jensen and Meckling, 1976). Scholars often draw on these assumptions to argue that tying pay to future firm value via incentives will induce managers to pursue actions that offer the potential to maximize performance and, thus, their personal wealth, thereby co-aligning managers and shareholders' interests (Devers, Wiseman, and Holmes, 2007bb).

Nevertheless, although the view above informs much compensation scholarship and practice, empirical work examining these arguments has returned equivocal results. In response, we offer a more nuanced theory of incentive alignment, in which within-TMT incentive heterogeneity, or the variance in TMT members' incentive portfolios,

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influences how managers respond to incentives. We ground our arguments in research suggesting that although highly incentivized managers tend to make risk-increasing strategic investments, managers with low incentives prefer conservative investments, and both can impede value maximization. We test our theory in the context of large acquisitions, as they present a visible strategic investment with significant upside and downside performance and wealth consequences (Haleblian *et al.*, 2009). Specifically, scholars have argued acquisitions appear attractive to top managers for several reasons, including opportunities to accrue private synergies (Hitt, Ireland, and Harrison, 2001), increase market power (Holcomb, Holmes, and Hitt, 2006), or provide rapid firm growth (McNamara, Haleblian, and Dykes, 2008; Morrow *et al.*, 2007). Acquisitions can also increase firm complexity, exacerbate information asymmetries, and enhance managerial discretion, bargaining power, and entrenchment (Bloom and Milkovich, 1998; Hambrick, Finkelstein, and Mooney, 2005; Henderson and Fredrickson, 1996; Hoskisson and Turk, 1990; Walsh and Seward, 1990).

At the same time, acquisitions are challenging investments that require significant resource commitments that are difficult to recover (Capron and Pistre, 2002; Haleblian, Kim, and Rajagopalan, 2006; Hayward, 2002). Considerable research has shown that because acquiring firm returns are quite volatile and often negative, acquisitions place acquiring firm value at risk (Haleblian *et al.*, 2009). Nevertheless, some acquisitions do succeed in significantly enhancing firm performance (Moeller, Schlingemann, and Stulz, 2005). As prior work suggests, the decision to acquire is fraught with ambiguity, as it presents both high upside and downside performance potential (Devers *et al.*, 2013). Thus, acquisition investments present an attractive setting to examine the role of incentives and incentive heterogeneity on TMT investment behavior.

EFFECTS OF INCENTIVES ON ACQUISITION INVESTMENT AND PERFORMANCE

Low TMT incentives

Compensation scholars argue that when their compensation is not heavily linked to firm outcomes, top managers have little incentive to act against their natural risk aversion (Larcker, 1983). Because nonincentive pay is perceived as relatively assured, top managers view it as an essential means of maintaining their standards of living (Gomez-Mejia and Wiseman, 1997). Thus, they "instantly endow" (Shefrin and Thaler, 1988; Thaler and Johnson, 1990) their perceptions of personal wealth with the future value of incentive pay forms and anticipated increases to them. To this point, Hall and Liebman (1998) argued managers paid as "bureaucrats" (low incentives) will opt for actions promising average returns and smooth income streams. The concern here is that managers without strong incentives will pursue overly conservative alternatives that limit downside risk exposure over less certain, but potentially value-enhancing opportunities (Jensen and Meckling, 1976). Given the uncertainty of acquisition performance, this research suggests that managers with lower incentive levels may perceive large acquisitions as unattractive strategic investments.

High TMT incentives

In contrast, compensation scholars have long argued that high incentives "reduce a risk-averse manager's natural tendency to reject variance increasing projects" (Larcker, 1983: 10). A strong body of evidence is consistent with the view that CEOs with high incentives often make overly risky investments that can harm firm value. For example, Sanders and Hambrick (2007: 1073) found that CEOs with high levels of stock options made large acquisition investments that generated much larger losses than gains. Further, although managers can and sometimes do suffer employment consequences when large acquisition investments miss the mark (Finkelstein *et al.*, 2009; Graffin, Haleblian, and Kiley, 2016), high incentives are argued to motivate managers to select bolder, riskier investments than they would select otherwise. Thus, their presence can shield managers from external criticism about their roles in those failures (Semadeni *et al.*, 2008). In this way, high incentives can provide critical fodder for face-saving impression management tactics, as managers can argue that their interests and those of shareholders coincide, thereby providing personal downside protection (Ginzel, Kramer, and Sutton, 1992; Wang *et al.*, 2016). In support, Devers *et al.* (2013) found that acquiring CEOs decoupled their personal wealth from firm performance following acquisition announcements, suggesting those CEOs had low confidence

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in the value potential of those deals. They further argued that highly incentivized CEOs may engage in actions that offer poor risk-–return tradeoffs to their firms but more favorable risk-return tradeoffs to them. This research suggests that TMTs holding higher levels of incentives should perceive less acquisition-related downside risk than teams with lower incentives and, thus, engage in greater acquisition activity, even though the potential value creation is highly uncertain.

Abnormal returns

A key indicator of perceptions of potential value expected from acquisitions are investors' responses to their announcements (Haleblian *et al.*, 2009). Specifically, investor reactions to acquisition announcements (announcement cumulative abnormal returns, or CARs) serve "as salient signals of investors" expectations of the potential long-term firm value creation inherent in those impending acquisitions (Devers *et al.*, 2013: 1685). Although acquisitions often result in positive combined (target and acquirer) investor responses, target firm returns often account for those increases, while acquiring firm investor responses generally trend toward neutral or negative (i.e., Haleblian *et al.*, 2009). Drawing on this research, we suggest that investors are pessimistic with regard to how they view acquirers' acquisition prospects and, thus, on average, will respond negatively to their announcements (Graffin *et al.*, 2016; Haleblian *et al.*, 2009; Hitt *et al.*, 2001). In summary, we propose:

Hypothesis 1: The average proportion of incentives held by a TMT is positively associated with its level of announced acquisition investment.

Hypothesis 2: The level of acquisition investment TMTs announce is negatively associated with investor responses.

EFFECTS OF WITHIN-TEAM INCENTIVE HETEROGENEITY ON ACQUISITION INVESTMENT AND PERFORMANCE

To this point, our treatment of TMTs is consistent with incentive alignment research that considers top teams as homogenous, integrated decision-making units and, thus, largely focuses on the effects of either CEO or average TMT characteristics (Barkema and Gomez-Mejia, 1998; Devers *et al.*, 2007a). Scholars taking this perspective tend to assume (implicitly or explicitly) that TMTs are composed of likeminded members whose pay portfolios are similarly structured. However, as noted, TMT members' incentive portfolios can differ significantly. For example, directors hold some discretion over the proportion of incentives they award to TMT members. Indeed, these levels vary based on a number of factors, such as function, responsibilities, goals, and so on (Aggarwal and Samwick, 2003). Further, directors are also able to grant incentive awards in periodic cycles and at different times to different managers. Thus, top managers can, and generally do, accumulate several layers of incentives over time (Devers *et al.*, 2008), and because their award cycles, experience, backgrounds, and responsibilities often vary, incentive pay layers, and the levels of combined incentives those managers hold can differ significantly.

Further, top managers have some discretion over when they exercise or sell vested incentives, Thus, exogenous influences or personal needs (major purchases, college tuition) can cause TMT members' proportions of incentives to vary, even among those with similar TMT and firm tenures (Bettis, Bizjak, and Lemmon, 2005). Nevertheless, despite this evidence, studies of within-TMT incentive portfolio heterogeneity are virtually absent from the strategic management literature. Thus, we know little about the effects of incentive heterogeneity in the TMT context.

We begin to explore these important issues by drawing on research that has examined choice behavior in groups and teams. Much of this work has shown that heterogeneous groups arrive at decisions more slowly than homogeneous groups do (e.g., Eisenhardt and Schoonhoven, 1990; Hambrick *et al.*, 1996). However, other related research has shown that heterogeneous teams often make higher quality decisions than homogeneous teams do (De Dreu and Weingart, 2003). Scholars attribute these results to the effects of group heterogeneity on team decision making. Specifically, heterogeneous teams view decisions differently, raise more decision-related issues, and debate those issues more deeply and vigorously than their homogeneous counterparts (Amason and Sapienza, 1997; Milliken and Martins, 1996; Williams and O'Reilly,

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1998). For example, Jehn (1995) found that members in diverse management teams debated many different tradeoffs inherent in various alternatives. Thus, although group homogeneity facilitates quick consensus (Certo, Certo, and Reutzel, 2006), group heterogeneity often extends deliberation, impedes swift consensus, and slows competitive response times (Eisenhardt and Schoonhoven, 1990; Hambrick *et al.*, 1996).

Related research has shown that such conflict broadens managers' fields of vision and encourages members to seek novel data, delve more deeply into issues, and develop thorough understandings of alternatives and the competitive environments in which they exist (Pelled *et al.*, 1999; Williams, Hoffman, and Lamont, 1995). These findings align well with evidence showing that team heterogeneity reduces groupthink-like conformity (Janis, 1972) by increasing members' willingness to challenge colleagues' ideas (De Dreu and Weingart, 2003). In addition, management team diversity can promote effective information sharing and evaluation, particularly in nonroutine, cognitive task situations (Jehn, 1995). Thus, the enhanced decision-making processes heterogeneous teams engage in can increase decision quality (De Dreu and Weingart, 2003). This is consistent with Barrick *et al.*'s (2007) research showing that team interdependence and cohesion are not universal precursors of TMT effectiveness.

We argue that these insights from the broader literature on team decision making and diversity are especially relevant for TMT-acquisition behavior. The due diligence required for acquisitions confronts acquiring top managers with several complex, interrelated, and nonroutine issues to evaluate (Hitt *et al.*, 2001). Further, because acquisitions are rarely similar (Barkema and Schijven, 2008), even top managers with significant acquisition experience must often rely on idiosyncratic, highly ambiguous information as they evaluate the performance prospects of transactions (Barkema and Schijven, 2008). Given this ambiguity, the specific concerns that managers must attend to while evaluating an acquisition are seldom clear-cut (Hitt *et al.*, 2001). As a result, the focus of managers' attention during acquisition evaluation is often determined by what they subjectively deem important (Cannella and Holcomb, 2005), and we argue that within-TMT differences in these subjective determinations are largely driven by individuals' incentives.

As we argued earlier, top managers' incentive levels strongly influence their preferences regarding acquisition investments. Following this line of reasoning, as within-TMT incentive heterogeneity increases, the heterogeneity in team members' acquisition investment preferences will also rise. Specifically, we argue that TMT members with higher incentives will identify and emphasize data and evidence that support the merits of potential acquisition investments, while colleagues with lower incentives will to emphasize the hazards those investments present (Lane, Cannella, and Lubatkin, 1998; Larraza-Kintana *et al.*, 2007). In other words, TMT incentive heterogeneity conditions the effects in our baseline hypotheses (Hypotheses 1 and 2).

Specifically, in developing Hypotheses 1 and 2, we argued that TMTs with lower (higher) average proportions of incentives would pursue lower (higher) levels of acquisition investment in response to those incentives. Drawing on the research above, we further propose that as within-TMT incentive heterogeneity rises, TMTs will engage in greater due diligence regarding potential acquisition opportunities. This, in turn, will slow team decision making and reduce the potential for TMT biases and decision errors (e.g., confirmation bias, groupthink) that can motivate managers to view unattractive investments as more valuable and certain than rational evaluations would reveal (McNamara and Bromiley, 1997; McNamara *et al.*, 2008). In sum, we then propose within-TMT incentive heterogeneity will attenuate the positive association between high-TMT average incentive levels and acquisition investment, as noted in Hypothesis 1. Building further on the research above, we argue that when incentives are high, TMTs with more diverse incentives will make better quality acquisition investments than TMTs with more homogeneous incentives, and investors will respond accordingly. Thus, although investor responses to acquisition announcements are generally negative, within-TMT incentive heterogeneity will attenuate the adverse association proposed in Hypothesis 2 (Amason, 1996; Haleblian and Finkelstein, 1993; Jehn, 1995; Moon *et al.*, 2003). Thus:

> *Hypothesis 3: Within-team incentive heterogeneity weakens the positive association between the average proportion of a TMT's incentives and its level of announced acquisition investment.*

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Hypothesis 4: For TMTs that announce acquisitions, within-TMT incentive heterogeneity moderates the association between the level of announced acquisition investment and investor reactions, such that large acquisition investments made under higher within-TMT incentive heterogeneity conditions will outperform those made under lower within-TMT incentive heterogeneity conditions.

METHODS

Sample and data sources

Our sample consisted of top managers and firms from Standard and Poor's (S&P) 1,500, between 1997 and 2013. S&P 1,500 firms represent a cross-section of industry sectors, have the financial resources to engage in large strategic investments, and financial and executive pay information is readily available. We included firms for which complete data were available. After adjusting for missing data, our full sample, used in our tests in which the dependent variable is acquisition investment, consisted of 17,833 firm-year observations, representing 2,392 unique companies. Tests in which the dependent variable was CARs required a reduced sample consisting only of firms that announced acquisitions, giving us a sample of 6,810 firm-year observations.

We obtained CEO and top manager pay, ownership, and demographic data from Compustat's Execucomp database. We drew data on product market diversification, firm size, organizational slack, industry characteristics, and firm performance from the Compustat Industrial Annual File, and acquisition investment data from Thompson Financial's Securities Data Company (SDC) Mergers and Acquisitions database. We collected investor responses from the Center for Research in Securities Prices (CRSP) with the Eventus software.

Dependent variables

Acquisition investment

For each year in our dataset, acquisition investment reflects the annual investment in majority public and private (51% or greater) acquisition transactions each firm announced and subsequently completed, and in which the individual acquisition value was greater than $10 million as reported in the SDC database (Chatterjeee and Lubatkin, 1990; Haleblian and Finkelstein, 1999).[1] Firms in our sample announced and subsequently closed 16,543 acquisitions that met the above restrictions.

Investor responses to acquisition announcements

We operationalized investor responses to acquisition announcements as short-term cumulative abnormal returns, or CARs, as reported in the Eventus database (Capron and Pistre, 2002; Haleblian and Finkelstein, 1999; Hayward, 2002; Schijven and Hitt, 2012). Short-term CARs are particularly appropriate for studies such as ours, in that given their tight windows, the influence of confounding events are minimized (McWilliams and Siegel, 1997).[2] Thus, short-term CARs provide a higher level of confidence that abnormal changes in stock price are more directly attributed to the focal event than other longer-term, distal measures (e.g., annual market or annual accounting measures). We operationalized CARs as the unanticipated returns on a security over the given period by taking the difference between the observed return and the expected return on that security. The CARs measure sums the daily-unanticipated returns over the course of the event window and averages all of the individual CARs around the focal firm's acquisitions in the focal year. Specifically:

$$Cumulative\,Abnormal\,Return_i\left(T_1, T_2\right) = \sum_{t=T_1}^{T_2}\left\{R_{it} - \left(\alpha_i + \beta_i R_{mt},\right)\right\},$$

where R_{it} = the return on stock i for day t, R_{mt} = the return on the market portfolio for day t; α_i = a constant, β_i = beta of stock i, T_1 = the first day in the event window, and T_2 = the final day in the event window. Our results use a window of three days before to three days after acquisition announcements [−3, 3]. Our findings are robust to other (e.g., [−1, 1], [5, −5]) windows.[3]

[1] Our results are robust to the inclusion of acquisitions worth less than $10 million in value.

[2] Our large sample restricted the removal of all acquisition announcements with potentially confounding events.

[3] For firms that announced multiple acquisitions in the focal year, we averaged the short-term CARs surrounding all of their acquisition announcements to obtain an annualized measure of market responses to those announcements.

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Independent variables

We lagged all independent and control variables by one year to establish temporal precedence of predicted cause relative to predicted effect (Baron and Kenny, 1986). Conceptually, the TMT consists of a firm's most senior executives, including the CEO (Cyert and March, 1963; Siegel and Hambrick, 2005). Accordingly, we defined the TMT as the CEO and the four highest paid non-CEO executives. This captures the highest-ranking officers of the company (Wagner, Pfeffer, and O'Reilly, 1984) and the key decision makers of the firm at its most senior level. This operationalization was primarily dictated by SEC regulations, which only require that firms reveal publicly the compensation for the five highest-paid officers, and our use of the ExecuComp database, which reflects information reported to the SEC.

Average proportion of TMT incentive-based pay

The average proportion of TMT incentive-based pay reflects the sum of TMT members' granted and held incentive-based compensation forms divided by their total compensation. We included three forms of incentive pay in our calculations: stock options (new and previously awarded), restricted stock, and long-term performance plans. We valued new stock option grants with the Black-Scholes pricing formula (Black and Scholes, 1973). We valued previously awarded exercisable and unexercisable options by multiplying the number of held options by the difference between their exercise prices and the stock price at the close of the market on the last day of the fiscal year, as reported in the firm's proxy statement (Devers *et al.*, 2008). Restricted stock awards were valued by multiplying the number of shares held by the firm's stock price on the last day of the fiscal year (Lambert, Larcker, and Weigelt, 1993; Sanders, 2001). Finally, we valued long-term performance plans as the expected future target payout reported in the firm's proxy statement.

For each firm-year observation, we calculated an average TMT-incentive portfolio pay variable for each TMT by summing the value of the stock options, restricted stock, and long-term performance plans (defined above) for the top five managers (the CEO and the four highest paid non-CEO executives). We then created a total pay variable for each TMT by summing each of the top five managers' salary, bonus, and incentive-based pay. We derived the proportion of TMT incentive-based pay by dividing aggregate TMT incentive pay by aggregate TMT total pay.

Within-TMT incentive heterogeneity

We operationalized within-TMT incentive heterogeneity with the gini coefficient of the proportion of TMT incentive-based pay in their portfolios (see above) for each TMT member (the top five managers). Scholars have used this measure in studies of income distribution inequality (Donaldson and Weymark, 1980) and pay heterogeneity (Bloom, 1999; Bloom and Michel, 2002; Brown, Sturman, and Simmering, 2003; Shaw, Gupta, and Delery, 2002). The gini coefficient ranges from zero, indicating "complete agreement," to one, indicating "complete disparity" (see Bloom, 1999). We calculated within-TMT incentive heterogeneity for each team as follows:

$$\text{Within-TMT incentive heterogeneity}_j = 1 + \frac{1}{n} - \frac{2}{n^2 \overline{y}} \left(y_1 + 2y_2 + \ldots + n y_n, \right)$$

where $y_1 \ \ldots \ y_n$ is the incentive structure for each individual TMT member of firm j arranged in decreasing order of size, $\overline{y}$ is the mean incentive structure for the TMT for firm j, and n is the number of members of TMT.

Control variables

Product market diversification

To account for the tendency of firms to pursue acquisitions as part of a larger diversification strategy (McColl-Kennedy, Daus, and Sparks, 2003), we controlled for product market diversification by using an entropy measure that takes into account the industry segments in which a firm competes as well as the relative importance of each segment (Hoskisson *et al.*, 1993a; Palepu, 1985).[4]

Firm size

Larger firms may have more propensity to acquire, as firms need resources to do so (Bettis, 1981;

[4] Because the segments data in Compustat is more limited than Compustat's overall coverage of fundamental firm data, we report results using sample mean-replaced firm diversification for any firm in our sample that was not missing any other variables but note that our results are robust to the exclusion of these firms as well.

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Hoskisson and Hitt, 1990; Hoskisson, Hitt, and Hill, 1993bb; Jensen, 1986). Thus, we controlled for firm size as the natural logarithm of the firm's total assets.

Firm slack

The presence of slack resources enables firms to increase search, which creates opportunities for organizational growth (Cyert and March, 1963; Levinthal and March, 1993). By extension, slack can facilitate searches that result in large acquisition investments (Iyer and Miller, 2008). The availability of slack resources can mitigate the downside risk of acquisitions by making them financially feasible and supporting integration efforts. Because a firm's financial capacity may affect its propensity for acquisition investment, we controlled for organizational slack, measured as the firm's debt-to-equity ratio (Bromiley, 1991; Jensen, 1986).

Prior year acquisition investment

Researchers suggest that past strategic investment may affect top managers' future strategic investment (Devers *et al.*, 2008). Thus, we controlled for the value of prior year acquisition investment for each firm in our sample.

Prior year firm performance

Firm performance can influence managers' motivations and propensities to acquire (e.g., Greve, 2008; Iyer and Miller, 2008). Thus, we controlled for firm performance in the year prior to acquisition investments, using the firm's return on assets (ROA) (Hayward and Hambrick, 1997; Laamanen, 2007; Schijven and Hitt, 2012).

CEO power

We partial out the effects of CEO power by controlling for CEO duality, CEO position tenure, and percentage of CEO ownership (Finkelstein, 1992). We operationalized CEO duality as a dichotomous variable reflecting whether (coded 1) or not (coded 0) the CEO was board chair. CEO tenure reflected the natural logarithm of the number of years a CEO held that position. CEO ownership reflects the percent of outstanding shares owned by the CEO.

Board independence

Although some assert that insiders may interfere with monitoring (Dalton *et al.*, 1998), Baysinger and Hoskisson (1990) argued that insiders might positively affect the board's ability to access and process complex firm information. Thus, we control for board structure by using board independence, which we define as the proportion of board members neither employed, nor otherwise affiliated, with the firm (Dalton *et al.*, 1998).

TMT ownership excluding CEO and CEO ownership

Compensation scholars have shown that stock ownership and stock option pay can differentially affect managers' investment allocation decisions (Sanders, 2001). Thus, we also control for TMT ownership using the percentage of shares outstanding at year-end held by TMT members, excluding shares held by the CEO, which is included as a separate control variable.

CEO and TMT turnover

In light of the influence of turnover on TMT decision-making processes (Simsek *et al.*, 2005), compensation (Cho and Shen, 2007), and the market performance of firms (Cannella and Hambrick, 1993), we control for CEO and TMT turnover, using data from Execucomp. For CEO turnover, we used a dummy variable coded as 1 when firms' CEOs changed in the previous year and 0 for those that remained the same. We also control for the percentage of the TMT (excluding the CEO) that changed in the previous year.

TMT mean incentive pay level

Compensation research has also noted the effects of the value of executive incentive-based pay on strategic decisions and performance (e.g., Datta *et al.*, 2001; Sanders, 2001), as opposed to the structure. In this light, we account for different levels of incentive pay between TMTs by controlling for the average dollar value of the TMT's (including the CEO) incentive-based compensation.

Industry and year effects

We controlled for industry effects using three measures: munificence, dynamism, and beta. Industry munificence, which reflects the abundance of

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resources needed by firms operating within a particular industry (Dess and Beard, 1984), influences a firm's propensity to act and may stimulate acquisition behavior by increasing the availability of financial resources. Industry dynamism, which refers to volatility within a given industry segment (Dess and Beard, 1984), may affect acquisition behavior by introducing additional uncertainty regarding the ultimate outcomes of acquisitions. We used the method described by Zhang and Rajagopalan (2004)[5] to capture munificence and dynamism.

We also included an estimate of industry beta, or the sensitivity of returns of firms in an industry segment to overall stock market movements. Using return data for securities in each industry (three-digit SIC codes), we first estimated the annual Scholes-Williams beta, or systematic risk, for each company's stock by using three-day moving averages for both the market returns and the firm's daily returns (Scholes and Williams, 1977). This approach smooths both measures to ensure against potential nonsynchronous trading problems. We then computed the beta for each industry as the value-weighted mean of betas for all securities in that industry segment. Finally, we included year indicator variables (dummies) for 1997–2013 to control for period effects, such as correlation of error terms over time (Certo and Semadeni, 2006).

Estimation and procedures

We used the Hausman (1978) test to evaluate which model was appropriate for our data. In models using acquisition investment as the dependent variable, the Hausman test was rejected ($\chi^2 = 3349.86$; $p = 0.000$), suggesting that the independent variables were correlated with the fixed effects. Therefore, we used a fixed-effects approach for the acquisition investment models. Similarly, in models in which the dependent variable was investor reactions to acquisition announcements, the Hausman test was rejected ($\chi^2 = 46.17$, $p = 0.098$).[6] Again, we used a fixed-effects approach in these models. Additionally, in all models, we estimated conservative robust standard errors for all coefficients (Beck and Katz, 1995; Wooldridge, 2002).

To test for moderation (Hypotheses 3 and 4), we followed Baron and Kenny's (1986) approach that used the multiplicative product of the component variables. We standardized all variables in our models, including controls, with a mean value of 0 and standard deviation of 1 for straightforward interpretation of parameter estimates (McNamara, Vaaler, and Devers, 2003).

RESULTS

Table 1 includes the descriptive statistics and correlation matrix for the unstandardized version of the variables included in the study. Table 2 reports the results using acquisition investment as the dependent variable for Hypotheses 1 and 3, and Table 3 reports the results of our Hypotheses 2 and 4 using CARs as the dependent variable. In Table 2 (in which acquisition investment is the dependent variable), Model 2 supports Hypothesis 1, which predicted that the average proportion of TMT incentives was positively associated with acquisition investment ($b = 0.046$, $p = 0.000$).

Also in Table 2, we tested Hypothesis 3, which predicted that within-TMT incentive heterogeneity would negatively moderate the positive association between the average proportion of TMT incentives and acquisition investment. As predicted, the interaction coefficient in Model 3 of Table 2 is negative ($b = -0.024$; $p = 0.002$), supporting Hypothesis 3. Figure 1 illustrates a plot of the interaction effect, which shows that for TMTs with lower incentives, highly heterogeneous TMTs spend an average of $44 million less on acquisitions than teams with less incentive heterogeneity. When TMTs have higher aggregate incentive pay, the gap is much larger, as TMTs with low incentive heterogeneity average $205 million more in acquisition investment than TMTs with higher heterogeneity.

Table 3, which contains regressions that use CARs as the dependent variable, contains tests of Hypotheses 2 and 4. In Model 2 of Table 3,

[5] We separately summed the dollars of industry sales and number of employees for all publicly traded firms in the given industry of sampled firms (four-digit SIC codes) in five-year windows, with the final year in that window representing the focal year. To operationalize munificence, we regressed industry sales on year variables and then divided this regression coefficient by mean industry sales (Dess and Beard, 1984). We calculated employee munificence separately using a parallel procedure. We then created a composite measure using principal component analysis of the industry sales munificence and industry employee munificence measures and used this composite as the variable in our analyses.

[6] The fixed-effects analysis is most conservative; however, analyses using random effects returned consistent results.

Table 1. Descriptive statistics and correlations[a,b,c]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11
1. Cumulative abnormal returns	0.00	0.06											
2. Acquisition investment ($ million)[d]	556.45	2602.35	−0.062										
3. Average proportion of TMT incentive pay	0.75	0.19	−0.024	0.099									
4. Within-TMT incentive heterogeneity	0.08	0.10	0.005	−0.061	−0.694								
5. Firm acquisition investment (lagged – $ million)	467.27	2823.19	−0.020	0.146	0.090	−0.053							
6. Firm performance (ROA – ratio)	0.05	0.11	0.007	0.029	0.142	−0.092	0.004						
7. Firm product diversification	0.47	0.59	−0.006	0.063	−0.024	−0.036	0.068	−0.029					
8. Firm size	8.15	1.71	−0.035	0.222	0.262	−0.211	0.232	−0.037	0.272				
9. Firm slack	2.15	18.63	0.024	0.012	0.000	−0.010	0.012	−0.022	0.040	0.089			
10. Industry dynamism	−0.30	0.96	0.028	−0.003	−0.069	0.040	0.024	−0.060	0.097	0.154	0.075		
11. Industry munificence	0.09	0.98	0.004	−0.005	0.044	−0.023	−0.029	0.032	−0.043	−0.039	−0.039	−0.406	
12. Industry beta	1.08	0.42	0.037	−0.017	0.117	−0.060	−0.010	−0.062	−0.025	0.024	0.003	0.082	0.078
13. CEO duality	0.62	0.49	−0.030	0.038	0.022	−0.016	0.043	−0.003	0.122	0.132	0.031	0.044	−0.037
14. CEO tenure	7.01	7.00	0.001	−0.007	−0.023	0.060	0.005	0.022	−0.044	−0.093	−0.005	−0.016	0.009
15. CEO ownership (% shares outstanding)	1.53	4.75	0.015	−0.033	−0.176	0.238	−0.027	0.043	−0.076	−0.177	−0.018	0.000	−0.004
16. CEO turnover (dummy)	0.15	0.36	0.014	−0.001	−0.044	0.040	−0.016	−0.030	0.014	−0.022	0.004	−0.029	0.052
17. TMT ownership (% shares outstanding)	0.79	3.40	−0.006	−0.030	−0.098	0.113	−0.029	0.011	−0.063	−0.119	−0.010	−0.010	0.001
18. TMT turnover (%)	0.15	0.17	0.000	0.002	0.027	0.007	0.037	−0.047	0.008	0.076	0.019	0.002	0.016
19. TMT mean incentive pay	10035.6	27513.17	−0.026	0.151	0.286	−0.146	0.248	0.064	0.006	0.236	0.004	−0.038	0.019
20. Board independence	0.71	0.16	0.001	−0.010	0.122	−0.169	0.000	0.001	0.078	0.205	0.011	0.067	−0.050

Variable	Mean	s.d.	12	13	14	15	16	17	18	19
13. CEO duality	0.62	0.49	−0.063							
14. CEO tenure	7.01	7.00	0.027	0.289						
15. CEO ownership (% shares outstanding)	1.53	4.75	−0.013	0.099	0.293					
16. CEO turnover (dummy)	0.15	0.36	−0.068	−0.125	−0.468	−0.045				
17. TMT ownership (% shares outstanding)	0.79	3.40	0.008	−0.129	−0.035	0.169	0.052			
18. TMT turnover (%)	0.15	0.17	0.005	−0.032	−0.131	−0.047	0.081	−0.048		
19. TMT mean incentive pay	10035.6	27513.17	0.036	0.045	0.062	0.023	−0.034	−0.034	0.023	
20. Board independence	0.71	0.16	0.101	0.060	−0.081	−0.217	−0.111	−0.175	0.070	−0.049

[a] $n = 6{,}810$ for all variables.
[b] Descriptive statistics reported for unstandardized version of all variables; analyses conducted using standardized versions.
[c] Results for year dummy variables are available upon request.
[d] Includes only firm-years in which acquisitions were made. For full sample, including firm-years with no acquisitions, mean = 255.33 and standard deviation = 1816.54.
TMT = top management team.

Table 2. The effects of TMT incentive structure and the interaction effect of TMT incentive structure and within-TMT incentive heterogeneity on acquisition investment[a,b]

Variable	Model 1	Model 2	Model 3
Firm acquisition investment (lagged)	−0.070 (0.017)	−0.070 (0.016)	−0.070 (0.016)
Firm performance (ROA)	0.142 (0.001)	0.130 (0.002)	0.129 (0.002)
Firm product diversification	−0.013 (0.440)	−0.013 (0.450)	−0.012 (0.459)
Firm size	−0.084 (0.238)	−0.090 (0.206)	−0.088 (0.217)
Firm slack	0.003 (0.616)	0.002 (0.687)	0.002 (0.682)
Industry dynamism	−0.014 (0.271)	−0.014 (0.247)	−0.014 (0.253)
Industry munificence	−0.017 (0.044)	−0.016 (0.050)	−0.016 (0.047)
Industry beta	0.007 (0.646)	0.004 (0.782)	0.004 (0.793)
CEO duality	0.003 (0.857)	0.003 (0.872)	0.003 (0.870)
CEO tenure	0.006 (0.663)	0.005 (0.726)	0.005 (0.731)
CEO ownership	−0.021 (0.094)	−0.021 (0.090)	−0.019 (0.120)
CEO turnover	−0.003 (0.803)	−0.004 (0.760)	−0.003 (0.781)
TMT ownership	−0.019 (0.111)	−0.018 (0.116)	−0.017 (0.131)
TMT turnover	−0.012 (0.199)	−0.011 (0.238)	−0.010 (0.256)
TMT mean incentive pay	0.028 (0.188)	0.026 (0.200)	0.025 (0.203)
Board independence	−0.027 (0.261)	−0.027 (0.261)	−0.028 (0.257)
Year dummy variables[c]	Included	Included	Included
Average proportion of TMT incentive pay		0.046 (0.000)	0.033 (0.001)
Within-TMT incentive heterogeneity		0.007 (0.221)	−0.037 (0.015)
Average proportion of TMT incentive pay × within-TMT incentive heterogeneity			−0.024 (0.002)
Intercept	−0.061 (0.219)	−0.054 (0.280)	−0.066 (0.195)
R^2	0.0121	0.0127	0.0130

[a] Dependent variable: acquisition investment $n = 17{,}833$.
[b] Fixed-effects models with robust standard errors. Values in table are unstandardized regression coefficients; p-values in parentheses.
[c] Results for year dummy variables are available upon request.
ROA = return on assets; TMT = top management team.

we report the results of our test of Hypothesis 2, predicting a negative association between acquisition investment and investor responses. In support of Hypothesis 2, acquisition investment was negatively associated with the dependent variable ($b = -0.029$; $p = 0.000$). To test Hypothesis 4, we examined the interaction effect of acquisition investment and within-TMT incentive heterogeneity (Model 4). In support of Hypothesis 4, we found that the interaction coefficient is positive ($b = 0.016$; $p = 0.016$).[7] Figure 2 illustrates the interaction plot. Consistent with Hypothesis 4, within-TMT incentive heterogeneity attenuates the negative association between acquisition investment and CARs. Thus, the acquisitions TMTs with higher incentive heterogeneity invest in resulted in CARs that were 20.5 percent higher than those produced by teams with lower heterogeneity, equating to a range of $27–$96 million difference in market capitalization for the average sample firm.

Supplemental analyses

We propose and theorize within-TMT incentive heterogeneity is an important form of diversity with unique effects from those of TMT diversity constructs used in prior work. In order to support that claim more convincingly, we also tested our hypotheses with the inclusion of various forms of TMT diversity (like our within-TMT incentive heterogeneity measure, including the CEO) that have previously appeared in the literature. Specifically, we included measures of age, firm tenure, gender, and functional background diversity as control variables in our full models. When these alternate forms of diversity are included as controls, the results of the tests of our hypotheses—including Hypotheses 3 and 4, which specifically test the effects

[7] We also used a median split to create two subsamples (high and low within-TMT incentive heterogeneity). We ran fixed-effects regressions using the same specifications in tests of Hypothesis 4, on both subsamples. We found that the association between acquisition investment and market responses was negative for the low within-TMT incentive heterogeneity subsample, but the association did not hold for the high within-TMT incentive heterogeneity subsample, providing further support for Hypothesis 4.

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Table 3. The interaction effect of acquisition investment and within-TMT incentive heterogeneity on cumulative abnormal returns[a,b]

Variable	Model 1	Model 2	Model 3	Model 4
Firm acquisition investment (lagged)	−0.001 (0.765)	−0.003 (0.449)	−0.003 (0.449)	−0.004 (0.428)
Firm performance (ROA)	−0.019 (0.664)	−0.006 (0.879)	−0.007 (0.869)	−0.007 (0.876)
Firm product diversification	−0.015 (0.383)	−0.016 (0.356)	−0.016 (0.357)	−0.016 (0.355)
Firm size	−0.197 (0.005)	−0.201 (0.004)	−0.201 (0.004)	−0.200 (0.004)
Firm slack	0.006 (0.156)	0.006 (0.166)	0.006 (0.167)	0.006 (0.164)
Industry dynamism	0.033 (0.058)	0.033 (0.061)	0.033 (0.061)	0.033 (0.058)
Industry munificence	0.007 (0.574)	0.006 (0.640)	0.006 (0.639)	0.006 (0.633)
Industry beta	0.043 (0.006)	0.044 (0.005)	0.044 (0.005)	0.045 (0.004)
CEO duality	−0.014 (0.401)	−0.013 (0.445)	−0.013 (0.445)	−0.013 (0.446)
CEO tenure	0.002 (0.908)	0.002 (0.902)	0.002 (0.900)	0.002 (0.908)
CEO ownership	0.037 (0.167)	0.035 (0.194)	0.035 (0.191)	0.036 (0.178)
CEO turnover	0.007 (0.657)	0.007 (0.663)	0.007 (0.659)	0.007 (0.664)
TMT ownership	−0.009 (0.729)	−0.011 (0.675)	−0.011 (0.680)	−0.011 (0.699)
TMT turnover	0.022 (0.052)	0.021 (0.069)	0.021 (0.068)	0.021 (0.067)
TMT mean incentive pay	−0.020 (0.230)	−0.016 (0.331)	−0.017 (0.326)	−0.016 (0.353)
Board independence	0.057 (0.005)	0.054 (0.009)	0.054 (0.009)	0.054 (0.009)
Year dummy variables[c]	Included	Included	Included	Included
Acquisition investment		−0.029 (0.000)	−0.030 (0.000)	−0.022 (0.000)
Within-TMT incentive heterogeneity			−0.003 (0.877)	−0.003 (0.875)
Acquisition investment × within-TMT incentive heterogeneity				0.016 (0.016)
Intercept	0.109 (0.081)	0.111 (0.075)	0.110 (0.076)	0.111 (0.075)
R^2	0.0202	0.0239	0.0239	0.0242

[a] Fixed-effects models with robust standard errors. Values in table are unstandardized regression coefficients; p-values in parentheses.
[b] Results for year dummy variables are available upon request.
[c] Dependent variable: cumulative abnormal returns. $n = 6{,}810$.
ROA = return on assets; TMT = top management team.

of within-TMT incentive heterogeneity—are unchanged. We also find that none of the age ($b = -0.01$; $p = 0.418$), firm tenure ($b = 0.02$; $p = 0.264$), gender ($b = 0.00$; $p = 0.602$), or functional background ($b = -0.02$; $p = 0.191$) diversity measures are related to acquisition investment (nor are they related to CARs), further suggesting the importance of our proposed within-TMT incentive heterogeneity relative to other forms of TMT diversity.

In an additional test, we replaced the previous year's acquisition investment with an average of the previous three years' of acquisition investment, which did not change the results of our hypotheses tests. The results of both supplemental analyses discussed above are available in Supporting Information.

DISCUSSION

The assumption that managers' investment decisions are shaped largely by judgments and opinions about the consequences that those decisions have for their personal wealth and employment prospects is fundamental to compensation theory and practice (Gerhart and Rynes, 2003). Building on the financial–economic perspective that large returns derive from large risks (Sharpe, 1970), many have argued that managerial risk aversion exacerbates agency costs (Jensen and Meckling, 1976). Traditional agency theory–based assumptions that often underlie compensation design suggest that incentives can mitigate agency costs by reducing managerial risk aversion and better aligning top managers' interests with those of shareholders (Finkelstein *et al.*, 2009). With few exceptions, however, scholars are vague about the degree to which incentives achieve these aims (Sanders and Hambrick, 2007). Therefore, it is not surprising that incentive alignment research has returned equivocal results (Finkelstein *et al.*, 2009).

Addressing this issue, we developed and tested a contingency theory that emphasizes the conditional influence of within-TMT incentive heterogeneity on manager-shareholder interest alignment. The

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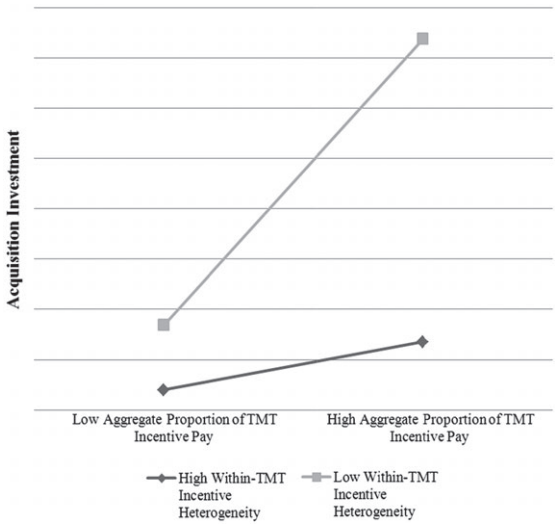

Figure 1. Moderating effect of within-TMT incentive heterogeneity on relationship between average proportion of TMT incentive pay and acquisition investment

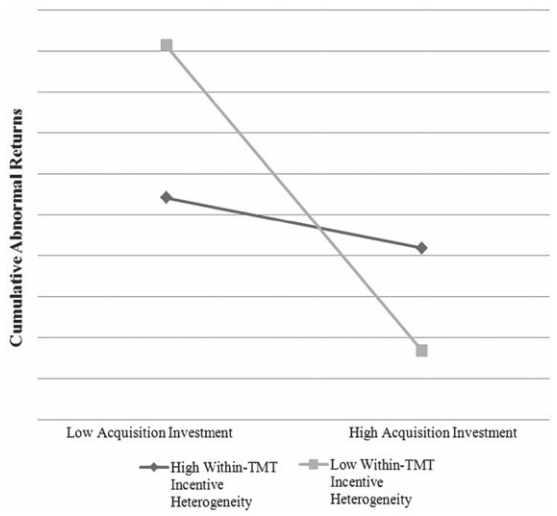

Figure 2. Moderating effect of within-TMT incentive heterogeneity on relationship between acquisition investment and CARs

results conformed to our predictions by showing that although high average TMT incentive levels stimulated investments that eroded firm returns, within-TMT incentive heterogeneity weakened that effect and appeared to align more tightly managers' interests with those of their shareholders. These findings make important contributions to the compensation, corporate governance, and upper-echelons literatures. Specifically, a rich body of work examining the effects of total pay dispersion exists. Nevertheless, we believe that our study is among the first to theorize about and test the influence of heterogeneity in the *structure* of TMT pay, and in particular, within-TMT incentive portfolio heterogeneity. For example, compensation scholars have long assumed that although TMT colleagues' total pay (e.g., dollar values) may vary considerably, their pay structures (e.g., pay mix) are fairly homogeneous, such that the proportions of incentives they hold are similar (Finkelstein *et al.*, 2009). Thus, although scholars often point to the harmful influence of total pay disparities on individual and group performance (Mathieu *et al.*, 2008), they are virtually silent about within-team incentive structure disparities.

In contrast, however, as we show, within-TMT incentive heterogeneity has important influences on TMTs' acquisitions and their implications for investor returns. Specifically, as we argued, because top managers can influence the structure of their incentive portfolios more than the total amounts of their pay (thus, incentive heterogeneity differs from total pay heterogeneity), within-TMT incentive heterogeneity is less apt to generate perceptions of inequity.[8] We believe, rather, that it is more likely to motivate deliberate decision-making processes that enhance acquisition investment decisions and outcomes for highly incentivized TMTs. Our results support this logic, as we find that firm investors are more receptive to the acquisitions TMTs with high proportions of incentives announce when within-TMT incentive heterogeneity is high rather than low. This underscores the importance of focusing on within-TMT incentive heterogeneity in addition to the structure of individual managers' pay portfolios.

Our results have significant practical implications, as well. For example, given the level of acquisition investment made by the firms in our sample, firms that fall between 0 and 1 standard deviation of the mean make between $556 million and $3.16 billion in acquisitions yearly. This means that the variance explained in our models testing Hypotheses 1 and 3 account for tens of millions of dollars for these firms. Moreover, for our models exploring Hypotheses 2 and 4, the market capitalization of firms that fall between 0 and 1 standard

[8] Within-TMT incentive heterogeneity may generate feelings of inequity if it results from powerful individual managers' negotiations with their boards. We encourage research that examines this possibility.

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deviation of the mean in our sample ranges from between $14.62 and $52.90 billion. Thus, the variance explained in the CARs variable in our models overall translates to between $300 million and $1.3 billion in firms' market capitalizations. The incremental variance explained with the addition of the predictor variables in Models 2–4 totals between $58 and $214 million for the typical firms in our sample. Overall, though the *R*-squares from our analyses appear small, these models explain millions of dollars of acquisition activity and billions in firms' market capitalization.

Our results also help establish the value of conceptually distinguishing the form of pay heterogeneity and its critical contingent role in interest alignment, thereby advancing an underdeveloped yet vital area of compensation research. Nevertheless, we clearly have much to learn about the extent to which absolute and relative total pay and incentive heterogeneity may operate in combination to affect important individual, team, and organizational outcomes. Therefore, uncovering how managers specifically perceive and respond to their complete pay portfolios holds important implications for compensation design.

As with any study, there are certain limitations. Because our data were archival, we were unable to examine the underlying decision-making processes that shaped managers' cognitive understanding in the firms we studied explicitly. In particular, we cannot confirm that such heterogeneity stimulated cognitive and social processes in ways that promoted thoughtful and comprehensive discourse and debate and enhanced strategic decision-making. We also are unable to confirm that it collectively moved TMTs away from either pure risk seeking or risk aversion toward risk neutrality. Although our findings suggest that under certain conditions, within-TMT incentive heterogeneity has positive firm consequences, future research that more directly examines top managers' perceptions and responses to incentives is required to advance our understanding how such heterogeneity produces these consequences.

In addition, because our study focused on the outcomes of within-TMT incentive heterogeneity, we did not examine how such heterogeneity arose. However, we find evidence that firms' within-TMT incentive heterogeneity positions varied over time. In addition, we used fixed-effects modeling to test our hypotheses. Thus, our results appear to derive from within-firm differences over time (rather than between-firm differences), suggesting our results are driven by each firm's year-to-year variance in the hypothesized variables. They also suggest that executive characteristics, such as risk aversion, did not exhibit consistent influences on the incentives TMT members' in our sample held. Rather, their preferences appeared dependent on their incentive pay and, importantly, on the heterogeneity of incentive pay among team members. Nevertheless, because we cannot entirely rule out within-firm endogeneity in incentives, over time, we encourage scholars to examine the antecedents to within-TMT incentive heterogeneity.

Although we are not completely sure how the within team incentive differences in our sample TMTs were derived, the critical takeaway is that such heterogeneity holds potentially critical and beneficial implications for interest alignment and firm governance. We also believe that some means to produce within-TMT incentive heterogeneity are available to directors and owners who wish to employ it, via more actively managing TMT incentive structures. For example, methods such as staggering the timing of TMT incentive awards and their exercise dates or requiring TMT members to file predetermined incentive-based pay accumulation and trading schedules (as set forth in the Securities and Exchange Commission Rule 10b5-1 of 2000) that vary among TMT members offer the ability to produce within-TMT incentive heterogeneity. Thus, the responsibility to do so is on directors. We strongly encourage future research that more thoroughly examines various antecedents of within-TMT incentive heterogeneity and their efficacy for aligning interests.

Our performance measure is postannouncement CARs, which reflect shareholders' initial expectations about the future value of the combined entity. Many have argued short-term CARs may be the most effective acquisition performance measure, and some scholars hold that investor responses can be somewhat predictive of longer-term post acquisition performance (see Haleblian *et al.*, 2009). This is particularly true, given the inherent difficulty in isolating the performance effect of an individual acquisition from other factors (Devers *et al.*, 2013). Nevertheless, while investor responses hold clear implications for firm value and TMT evaluation, they may not accurately represent objective long-term deal performance completely. Rather, investor responses may be swayed by other factors not directly related to performance, such as the

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quality of the reasoning TMTs offer for the deal (due to incentive heterogeneity), or their level of impression management, etc. (Graffin *et al.*, 2016). Although examining this issue is beyond the scope of our study, this potential question is interesting and worth considering.

Further, we defined the TMT as the CEO and the four highest paid non-CEO executives, as this captures the highest ranking firm officers (Wagner *et al.*, 1984) and the key decision makers of the firm at its most senior level. This operationalization represented a tradeoff, as it allowed us to use the rich data in the Execucomp database, which reports SEC-required compensation data that are typically limited to the five highest paid officers for each firm. Thus, we may not have captured the exact average TMT incentive levels and the within-TMT incentive heterogeneity in firms with TMTs that had more than five members. Nevertheless, we believe the influences of average TMT incentive levels and within-TMT incentive heterogeneity would hold similarly in firms with more than five TMT members, as the effects are on teams' collective decision processes rather than individual decision processes.

Finally, our results suggest that TMT incentive heterogeneity has important implications for acquisition actions. Although some research has shown that the value of other pay forms (e.g. restricted stock), when examined in isolation, differentially impacted CEO actions, similar to our findings, those effects fluctuated with high and low value levels (Devers *et al.*, 2008; Lim, 2015). Further, despite attempts to supplant stock options with other forms of pay (ownership, restricted stock, etc.) option value remains the most prominent component of executives' incentives and total pay portfolios (Devers *et al.*, 2013; Martin, Wiseman, and Gomez-Mejia, 2016). In addition, because other forms of incentive have weaker effects than do options (Hall and Murphy, 2002), high stock option values may likely trump any potential incentives effects other pay forms may have in isolation. However, as compensation design continues to evolve, we encourage research that continues to examine the influence of various incentives and incentive heterogeneity among and within top managers.

In sum, by exploring the interactive influence of average TMT incentive proportions and within-TMT incentive heterogeneity, we offer insight into the influence of incentive pay on strategic investment and outcomes. Our findings add important insights to this currently underdeveloped area of compensation research by demonstrating the importance of considering within-TMT incentive heterogeneity as a unique construct in compensation and governance research. We hope our study lays a strong foundation scholars can build on as they continue to advance compensation theory, testing, and practice.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix S1. Controlling for alternative forms of diversity.
Appendix S2. The interaction effect of acquisition investment and within-TMT incentive heterogeneity on cumulative abnormal returns controlling for other forms of diversity (age, tenure, gender, functional diversity).
Appendix S3. Controlling for longer time windows of prior acquisition investment.
Appendix S4. The interaction effect of acquisition investment and within-TMT incentive heterogeneity on cumulative abnormal returns controlling for average of prior three years of firm's acquisition investment.

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