

## RESEARCH NOTES AND COMMENTARIES

### TOP MANAGEMENT TEAM COMPENSATION: THE MISSING LINK BETWEEN CEO PAY AND FIRM PERFORMANCE?

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*In this research we discuss the relationship between CEO and top management team (TMT) member compensation, and explore the implications of TMT pay for firm performance. Specifically, we suggest that firm performance may benefit due to agency and group behavioral issues when top management team member pay is aligned—alignment is defined as the degree to which TMT member pay reflects (1) shareholder interests and (2) key political and strategic contingencies within the firm. In support of our theorizing, we found CEO pay to be related to TMT pay; TMT compensation, in turn, predicted performance (i.e., return on assets and Tobin's q) when aligned with shareholder interests and internal contingencies. Moreover, the effect of CEO pay on future firm performance was dependent on top team pay. Copyright © 2002 John Wiley & Sons, Ltd.*

Why has top management team (TMT) compensation—the pay of top executives apart from their chief executive officer (CEO)—received so little theoretical or empirical attention? One reason may be that researchers assume the determinants and consequences of top executive pay schemes to be isomorphic with those of the CEO. In that view, theoretical perspectives should be equally applicable to both CEOs and members of top teams. Therefore at the limit, to the extent that firm and industry characteristics actually predict chief executive compensation, there should be a nearly perfect correlation between how CEO and TMT member pay are determined.

Key words: executive compensation; firm performance; agency theory; top management teams; cooperation

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However, while research has made the implicit assumption that CEO compensation is a proxy for incentive alignment throughout the firm, there is ample evidence and theory to suggest that senior executive pay schemes are rarely identical (Finkelstein and Hambrick, 1996; Henderson and Fredrickson, 2001). Pragmatists account for such variation in pay by pointing out that the responsibilities of CEOs and other executives overlap, but that their primary roles and areas of expertise tend to be very different. Similarly, tournament theory prescribes large differences in compensation as a way to motivate senior executives in the face of typical agency problems (i.e., difficult to monitor, asymmetric information). Nevertheless, both those views ignore the fact that top managers are generally tasked with functioning as part of an interdependent 'team' (Hambrick, 1995).

At a fundamental level, differences in how pay is determined will have consequences for the degree to which top managers' and shareholders' interests are aligned (Jensen and Murphy, 1990). Just as importantly, perhaps, equity in pay determination may contribute to executives' perceptions of procedural justice (Kim and Mauborgne, 1996), which in turn can influence TMT members' level of behavioral integration (Hambrick, 1995). Such potential consequences of external and internal executive compensation alignment are important since behaviorally integrated top teams allow firms to adapt more rapidly to changing competitive environments (O'Reilly, Snyder, and Boothe, 1993), and ultimately return superior firm performance (Hambrick, 1995). Regardless, research has yet to empirically or theoretically consider how CEO pay, shareholders' interests, and internal contingencies are reflected in other executives' pay, and the performance effects of TMT pay alignment. Therefore, in this research we explore determinants of TMT member compensation schemes, and the degree to which such pay predicts subsequent firm performance.

## CEO AND TMT PAY

In our first hypothesis we examine the relationship between CEO total pay and long-term pay structure and TMT member pay and pay structure—these two facets of executive pay schemes have received the greatest amount of attention in the business press and management research. Total pay is simply the combined amount of compensation an executive receives, while pay structure is the relative proportion of pay received in contingent, long-term forms (i.e., stock, stock options, etc.). Agency theorists believe that long-term pay structure aligns executives' interests with those of shareholders (Jensen and Murphy, 1990), since long-term forms of pay typically reward managers when they are successful in meeting future firm performance criteria (Baysinger and Hoskisson, 1990).

Our baseline prediction is that CEO pay level and long-term structure will be strongly, but imperfectly related to those same aspects of top management team member pay. CEO and TMT member pay may converge as the simple consequence of division of executive labor. Moreover, the complexity of managing today's large organizations

often requires chief executives to delegate critical responsibilities to functional or division heads, and to otherwise rely on the substantive contributions of the executives comprising the TMT. At the very least, CEO and TMT pay level and structure may show some similarity based on the various idiosyncrasies of firms' respective pay practices (i.e., some firms pay all employees more than do other firms).

There are, however, a number of factors that promote divergence in CEO and TMT member compensation. For instance, Hambrick (1995) noted that the pay of top managers besides the CEO is often weighted toward the performance of each executive's own subunit. Similarly, Hayward and Hambrick (1997) showed that large pay gaps existed between the CEO and next highest paid member of their top management team—typically ranging between 30 and 50 percent, but sometimes over 100 percent. Such divergence in pay has precedent in tournament theory (a branch of agency theory), wherein large differences in pay between the CEO and next highest level serve to motivate the executives occupying that level by promoting competition among them (Lambert, Larcker, and Weigelt, 1993). Other organization researchers, in contrast, have used differences in CEO and TMT member pay as an indicator of CEO hubris (Hayward and Hambrick, 1997). Thus, as hypothesized below, while some theory and received wisdom predict convergence in CEO and TMT member pay practices within a given firm, other theory and evidence predict less than perfect correspondence.

*Hypothesis 1: CEO pay level and long-term structure will be positively but imperfectly related to TMT member pay level and structure.*

## TMT MEMBER PAY AND SUBSEQUENT FIRM PERFORMANCE

In the next two hypotheses we shift attention to the performance consequences of TMT pay (excluding the CEO). A significant source of criticism of CEO pay, especially among large public U.S. firms, is its apparent de-coupling from both past and subsequent firm performance (Finkelstein and Hambrick, 1996; Tosi *et al.*, 2000). To the extent that TMT pay level and structure are isomorphic with

CEO pay, then TMT pay may be similarly ineffective. However, as we predicted in Hypothesis 1, we do not expect perfect isomorphism between CEO and TMT pay. Indeed, differences among executives' individual pay schemes may become a centrifugal force which pulls the team apart and thereby limits its collective effectiveness (Hambrick, 1995). Therefore, to the extent that pay convergence is the exception and not the rule, we predict that the agency and group behavioral implications of TMT pay will positively impact firm performance. Two forms of pay convergence are considered below: external alignment and internal alignment.

### External alignment

External alignment refers to the degree to which the structure of TMT member compensation takes into account the interests of shareholders. A classic agency solution to this problem is to increase the proportion of TMT member compensation that is paid in long-term forms (Jensen and Murphy, 1990), thus making executive pay primarily contingent on future firm performance. Despite such received theory, only one study has looked at the implications of compensation structure for firm performance; Mehran (1995) reported that CEO pay structure was positively related to same-year performance. At a fundamental level, the agency perspective is concerned with creating cooperation in situations characterized by conflict, risk, uncertainty, and information asymmetry (Eisenhardt, 1989). However, such 'cooperation' refers primarily to that between managers and shareholders, and not among the managers themselves. And yet, top executives may be just as likely to shirk team-related responsibilities (in contrast to shareholders' interests) when their priorities are not collectively aligned.

For instance, Hambrick noted that in cases where executive pay is based largely on subunit performance 'everyone starts pulling in their own direction, and collaboration and coordination suffer' (Hambrick, 1995: 123). Behaviorally, in addition to the incorporation of shareholders' interests in strategic decision making, external alignment (i.e., TMT member long-term pay structure) may also increase cooperation and perceptions of procedural justice among members of the TMT. This would be consistent with Kim and Mauborgne (1991), who reported that the use of firm-level

rewards promoted perceptions of fairness (i.e., procedural justice) and a willingness to engage in cross-division subsidization. Moreover, greater average long-term pay structure among members of the TMT may further contribute to behavioral integration since executives now share similar constraints and benefits in pay determination (i.e., for better or for worse). Such behavioral integration is important since it suggests that TMT long-term pay structure may be an indicator or determinant of the wholeness and unity of a TMT's efforts, and ultimately its ability to contribute to bottom-line performance as an integrated team (Hambrick, 1995). Therefore, to the extent that TMT members' long-term pay structures align top executives' interests with those of shareholders, or contributes to a behaviorally integrated top team, we predict that:

*Hypothesis 2: The external alignment of TMT member pay (i.e., long-term pay structure) will be positively related to subsequent firm performance.*

### Internal alignment

While TMT long-term pay structure suggests alignment among executives' and shareholders' interests, it only indirectly reflects the degree to which TMT pay is internally consistent with characteristics of the firm. This latter distinction is important since top managers' perceptions of equity and procedural justice, and hence the TMT's overall level of behavioral integration, may also be largely influenced by the belief that members' total pay has been set fairly with respect to the CEO's pay and critical demands facing their firm. For instance, it has been recently shown that while CEO total pay may be unrelated to performance, it is related to the organizational complexity that they manage (Henderson and Fredrickson, 1996; Sanders and Carpenter, 1998). Since most large firms are managed by teams and not single executives like the CEO, the total pay of TMT members should similarly reflect the complexity facing their firm.

Taking that view a step further, we suggest that such payment-for-complexity relationships may lead to cooperative behavior and, as a result, high firm performance when it is extended to members of the TMT. The upper limit of this procedural justice argument may be complete pay parity among top executives. For instance, Harder

(1992) showed that relatively underrewarded basketball players engaged in selfish behaviors, while overrewarded players engaged in cooperative ones. However, given the greater level of ambiguity surrounding executives' organizational roles (vs. that of sports team members) we do not anticipate equal CEO and TMT member pay. Instead, we expect only that greater alignment (i.e., positive covariance) between CEO total pay and organizational demands *and* TMT member pay will contribute to the team's overall level of behavioral integration. Such a behavioral dynamic may be amplified by the facts that CEOs typically have influence over their own pay, great control over other executives' pay, and that the compensation of top executives is publicly disclosed. And, as noted above, large differences in CEO and TMT pay may signal excessive CEO hubris (Hayward and Hambrick, 1997), and a behaviorally fragmented top management team (Hambrick, 1995). Therefore, in our third hypothesis we predict that where CEO pay and payment-for-complexity are also positively reflected in TMT member pay (i.e., internal alignment), subsequent firm performance is likely to benefit.

*Hypothesis 3: The internal alignment of TMT member pay will be positively related to subsequent firm performance.*

## RESEARCH METHOD

### Sample and data

We randomly selected 250 firms from the Standard and Poor's 500 (S&P 500). Incomplete data reduced the final sample to 199 firms; a means test indicated that the remaining firms were not statistically different from the excluded firms on the dimensions of total assets, total sales, and performance (return on assets). Compensation data came from Compustat's *ExecuComp* service, which extracts compensation data from firm proxy statements. Data regarding board structure were collected from Standard and Poor's *Register of Directors and Executives*. Finally, firm financial and geographic information came from *PC-Compustat*. We defined the TMT as the four highest paid executives reporting to the CEO. The SEC requires that pay information be made public for these four individuals in addition to

the CEO. Since upper echelon studies typically report the 'inner circle' of top teams to number between three and seven people (including the CEO), and because pay serves as a good proxy for hierarchical level (Finkelstein and Hambrick, 1996), compensation data on the top five executives should provide a representative sample of TMT member pay.

### Measures: independent and dependent variables

#### *CEO total pay and long-term pay structure*

Hypothesis 1 predicts that CEO total pay and CEO long-term pay structure will be related to those same aspects of TMT member pay. Consequently, we gauged CEO pay level as the logged value of total compensation; long-term pay structure was measured as the ratio of long-term pay to total compensation, an approach commonly used to assess pay structure (Zajac and Westphal, 1994).

#### *TMT pay level and TMT long-term pay structure/external alignment*

The level of TMT member pay is a dependent variable in Hypothesis 1, and was calculated by logging the average value of total compensation granted each of the top four executives in 1992. TMT long-term pay structure is a dependent variable in Hypothesis 1 and then serves as a proxy for TMT external alignment, the independent variable used to test Hypothesis 2. TMT long-term pay structure/external alignment was gauged as the proportion of total compensation paid in long-term forms, averaged over the top four executives in 1992.

#### *TMT internal alignment*

As discussed earlier, recent research has suggested that chief executive pay may be a consequence of sociopolitical forces (Hayward and Hambrick, 1997; Zajac and Westphal, 1994), as well as the level of complexity that CEOs are tasked with managing (Henderson and Fredrickson, 1996; Sanders and Carpenter, 1998). Consistent with those views, we measured TMT internal alignment by creating a variable which captured the degree to which TMT members' total pay was similarly a reflection of CEO pay and the managerial demands facing their firms. The proxies

for managerial complexity (i.e., firm size, R&D intensity, and product and geographic diversification) identified by Henderson and Fredrickson (1996) and Sanders and Carpenter (1998), along with CEO total pay, were regressed on TMT total pay. Following a procedure similar to that used by Harder (1992) to assess pay distributions, we used the above equation to generate a residual for every firm. Therefore, positive residuals indicate that complexity and CEO pay have a stronger than expected relationship with TMT member pay; negative residuals indicate that such factors have a weaker than expected association.

#### *Subsequent firm performance*

To test Hypotheses 2 and 3, we measured performance as average return on assets (ROA) during 1993–95. ROA is a widely used measure of firm performance in the literature on executive compensation and corporate governance (Finkelstein and Boyd, 1998; Finkelstein and Hambrick, 1996) because it indicates the efficiency with which a firm employs its current asset base. We used 3-year average ROA to smooth any abnormalities associated with a single year's performance. In other models (not reported) using 1993 ROA and Tobin's  $q$  alone, we found virtually identical results (i.e., signs and significance of independent variables). Tobin's  $q$  gauges the degree to which the stock market values a firm relative to its replacement cost (Mehran, 1995).

#### **Measures: control variables**

Firm size is related to the level of executive compensation (Finkelstein and Hambrick, 1996) as well as with the complexity and information-processing demands placed on executives (Henderson and Fredrickson, 1996). We therefore controlled for the effects of firm size using the logarithm of total sales. Additionally, product and geographic diversification are related to the complexity of the firm, and to executive compensation and firm performance (Henderson and Fredrickson, 1996, 2001). Therefore, we controlled for both. Product diversification level was measured using an entropy measure for total diversification such that  $\text{diversification}_a = \sum P_{ia} \ln(1/P_{ia})$ , where  $P_{ia}$  is the proportion of firm  $a$ 's sales in business segment  $i$ .

Geographic diversification was measured following Sanders and Carpenter (1998), whereby firm international activity is gauged on the dimensions of (1) foreign sales/total sales, (2) foreign assets/total assets, and (3) geographic dispersion of foreign sales, which are then summed. The variables demonstrated high inter-item reliability ( $\alpha = 0.81$ ), loaded on one factor with a high Eigenvalue and explained variance, and the component variables and composite measure were normally distributed. Since compensation and subsequent performance are a function of prior performance, we also included a control for firm performance in all models; performance was measured as 1991 ROA (instrumental variable used in Models 3 through 5b due to correlated errors arising from subsequent ROA as dependent variable).

CEO pay structure is an agency solution that is expected to be reflected in higher firm performance (Jensen and Murphy, 1990). We controlled for such structure using CEO long-term pay structure as described above. Similarly, vigilant boards may affect the compensation of executives and firm performance (Baysinger and Hoskisson, 1990). We control for the effect of board governance by including a measure of the percentage of board members who are not employed by the firm (board outsiders). Research and development (R&D) intensity varies significantly by industry (Sanders and Carpenter, 1998). Moreover, managerial complexity is partially a function of R&D intensity and both industry and complexity differences affect executive pay levels (Henderson and Fredrickson, 1996). Therefore, we controlled for R&D intensity, gauged as R&D expenditures/Total sales. Results were unchanged in supplemental analyses adding Amburgey and Miner's (1992) industry controls (i.e., eight dummy variables).

#### **Analysis**

Since the proposed relationships are recursive, and the dependent variables are continuous, we used ordinary least squares (OLS) multiple regression analysis to estimate models of TMT pay and performance. However, to the extent that the models using CEO and TMT pay encompass a larger system of equations in which some variables that predict subsequent firm performance might be independently related to pay (i.e., prior performance or CEO pay), OLS regression could yield biased estimates (Johnston and Dinardo, 1997).

Results using instrumental variables for CEO pay and prior firm performance, or CEO pay alone were unchanged from the reported OLS results using an instrumental variable solely for performance. Additionally, variance inflation factor scores (i.e., indicating excessive multicollinearity) were within acceptable limits for all models.

## RESULTS

After converting the logged values to absolute values, the average levels of CEO and TMT member total pay for the firms in our sample were found to be \$2,463,950 and \$1,259,280, respectively. The average level of TMT member long-term pay structure was 28 percent. This varied widely across firms, ranging from 0 to 79 percent. Recognizing that within-TMT pay skewness could result in aggregation bias, we conducted supplemental analyses to assess the bases for this concern. First, the indices for skewness and kurtosis returned values close to zero, indicating a distribution very close to normal. As a further precaution, we tested the sensitivity of our performance hypotheses' results

to the inclusion of TMT pay variance in the regressions. The results were unchanged from those presented in Table 1 and discussed below.

In part to establish a baseline for latter hypotheses, Hypothesis 1 predicted that CEO pay level and structure would predict TMT pay level and structure, but that such relationships would be imperfect. The two control models (not shown) containing firm size, product and geographic diversification, firm performance, board outsiders, and R&D intensity were significant and explained 19 and 5 percent of the variance in TMT member compensation and long-term pay structure, respectively. The two full models (Models 1 and 2 in the table), with CEO pay level and pay structure added, respectively, explained an additional 24 and 39 percent of the variance in TMT pay. Thus in support of Hypothesis 1, CEO pay was a significant ( $p < 0.001$ ), but only partial, predictor of TMT pay.

Recall that our other two hypotheses test the relationship between TMT pay and subsequent firm performance. We tested Hypotheses 2 and 3 in five steps: (1) first, we included control variables only; (2) CEO long-term pay structure was added in the second step to view its isolated effects and

Table 1. Summary of regressions testing Hypotheses 1–3

| Independent variables \ Dependent variables   | H1: Model 1   | H1: Model 2       | Control Model 3   | H2: Model 4       | H3: Model 5a      | H3: Model 5b      |
|---|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|   | TMT pay level | TMT pay structure | Firm Performance  |                   |                   |                   |
| TMT external alignment                        |               |                   |                   | 18.04**           |                   |                   |
| TMT internal alignment                        |               |                   |                   |                   | 7.82***           |                   |
| TMT overpayment                               |               |                   |                   |                   |                   | 7.85**            |
| TMT underpayment                              |               |                   |                   |                   |                   | -7.75*            |
| CEO pay level                                 | 0.45***       |                   |                   |                   |                   |                   |
| CEO pay structure                             |               | 0.48***           | 6.98*             | -3.65             | 7.30*             | 7.30*             |
| Firm size (000)                               | 0.09***       | 0.05              | -0.01             | -0.09             | -0.08             | -0.08             |
| Product diversification                       | 0.10          | -0.01             | -1.99             | -1.72             | -2.39             | -2.39             |
| Geographic diversification                    | 0.03          | 0.01              | 3.64 <sup>†</sup> | 3.60 <sup>†</sup> | 3.23 <sup>†</sup> | 3.23 <sup>†</sup> |
| Prior performance                             | 0.03***       | 0.001             | 2.48***           | 2.49***           | 2.54***           | 2.53***           |
| Board outsiders                               | -0.01         | 0.12              | 0.18              | -1.95             | 3.16              | 3.14              |
| R&D intensity                                 | -0.24         | -0.30             | 2.65              | 2.71              | 0.71              | 0.82              |
| Intercept                                     | 2.93***       | 0.02              | 2.68              | 2.61              | 0.48              | 0.46              |
| Adjusted $R^2$                                | 0.43***       | 0.44***           | 0.20***           | 0.22***           | 0.28***           | 0.28***           |
| Increase in adjusted $R^2$ over control model | 0.24***       | 0.39***           | 0.01*             | 0.03**            | 0.09***           | 0.09***           |
| Increase in adjusted $R^2$ over prior model   | 0.24***       | 0.39***           | 0.01*             | 0.02**            | 0.06**            | 0.06**            |

<sup>†</sup> $p < 10$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; hypotheses are one-tailed tests, controls are two-tailed tests,  $n = 199$ .

provide a basis for testing the possibility of mediated relationships (Model 3); (3) TMT external alignment was added in the third step (Hypothesis 2 and Model 4); and (4) TMT external alignment was dropped, and TMT internal alignment was added to Model 5a (Hypothesis 3). Finally, in step (5), we break out TMT internal alignment into two dimensions using splines to show the relative effects of TMT member overpayment and underpayment, respectively (Model 5b).

The control model (not shown) accounted for 19 percent of the variance in subsequent ROA. The addition of CEO pay structure (Model 3) explained a little over 1 percent of additional variance ( $p < 0.05$ ). Model 4 adds TMT long-term pay structure to test Hypothesis 2 on TMT external alignment. Since this variable was significant ( $p < 0.01$ ), and increased the variance in ROA explained over the prior model, Hypothesis 2 was supported. Moreover, the effect of CEO pay structure is shown to be fully mediated by TMT external alignment since the coefficient for CEO pay is no longer significant. As noted above, similar support was found for Hypothesis 2 and the next hypothesis, Hypothesis 3, when Tobin's  $q$  was substituted for ROA.

In the last hypothesis, Hypothesis 3, the effect of TMT internal alignment was tested using a variable which represents the degree to which TMT pay level corresponds with CEO pay level and the level of managerial complexity facing their firm. When the variable for TMT internal alignment was added to Model 5a (and external alignment dropped), variance explained was increased by nine percentage points ( $p < 0.01$ ) over that explained by the control model, and the coefficient for TMT internal alignment was positive and significant ( $p < 0.001$ ). This coefficient suggests support for Hypothesis 3 since subsequent firm performance was higher in those firms with greater internal alignment—that is, where TMT pay was positively aligned with CEO pay and organizational complexity. Moreover, the effect of CEO pay is marginally stronger with internal alignment in the model (CEO pay again exhibited no effects when TMT external alignment was added back to Model 5a). However, the above analysis ignores the possibility that the effects of TMT overpayment (i.e., positive residuals) and underpayment (i.e., negative residuals) may differ. Specifically, it does not tell us if support for the Hypothesis was a function of (1) greater relative TMT member overpayment, (2) lesser relative underpayment, or

(3) some combination of overpayment and underpayment.

To determine the underlying functional form we used the TMT residual above to develop a spline function (Johnston and Dinardo, 1997) where we created two new variables, TMT member overpayment and TMT member underpayment. Spline functions incorporate the notion that preferences and behaviors can vary depending upon whether one's position is above or below a certain aspiration level (Greve, 1998). In our case the theoretical aspiration level is where the residual equals zero, since such a value would mean that TMT member pay perfectly reflects CEO pay and the firm complexity factors, and has thus been determined equitably. The overpayment variable was set equal to the residual term if it was positive, and zero otherwise. We similarly created the underpayment variable by setting it equal to zero if the residual was positive, and took the actual residual value otherwise. The sign of the underpayment variable was reversed so that larger positive values signified greater underpayment.

It is interesting to note that while executives in the overpaid group received, on average, 70 percent of their CEOs' pay (i.e., TMT member pay of \$1.7 million vs. CEO pay of \$2.4 million), those in the underpaid group received only 38 percent (i.e., TMT member pay of \$907 thousand vs. CEO pay of \$2.4 million). When the TMT over- and underpayment variables are substituted for internal alignment in the regression (Model 5b), they were shown to have opposite relationships with subsequent performance (variance explained will not change from Model 5a since underpayment and overpayment are effectively a linear combination of the TMT external alignment variable). Therefore, in further support of Hypothesis 3, overpayment has a positive effect, while the effect of underpayment is negative. Taken in combination, the above results suggest that CEO pay structure is related to subsequent firm performance, but that relationship is mediated or augmented by the external and internal alignment of TMT member pay.

## DISCUSSION

The objectives of this study were to highlight the interplay between CEO and TMT member pay, and the consequences of such interplay for firm performance. Those two objectives were largely

achieved. Specifically, we showed that while CEO pay did indeed influence TMT member pay, it was TMT pay that predicted future firm performance. And although chief executive pay structure exhibited a positive relationship with firm performance, subsequent analyses showed that such a relationship was mediated or increased by the stronger positive effects of TMT pay.

These findings are notable for several reasons. First, the results reaffirm the importance of CEO pay, but at the same time suggest that its effects on performance may be indirect through such factors as the compensation scheme recommended or ratified for other members of the top team. In this view, CEO and senior executive pay are equally important but their respective effects may be masked when external alignment is not matched by internal alignment. Indeed, prior research has argued that CEOs function as gatekeepers with respect to TMT member pay. This would be consistent with the literatures concerned with CEO power (Finkelstein and Hambrick, 1996; Hayward and Hambrick, 1997), and frame pay determination largely as the outcome of sociopolitical processes (Zajac and Westphal, 1994). Hence, CEOs are embedded in a socially complex top management team and, by determining TMT pay structure, may further enable the team to positively affect firm performance.

Moreover, given the inertial tendencies of firms, including their approach to executive pay, such social complexity itself may yield a source of competitive advantage. Specifically, a behaviorally integrated CEO and TMT could be considered the fabric of competitive advantage, while appropriate compensation is one of the threads holding the fragile tapestry of executives together as a team. Such an interpretation would be consistent with Hambrick's (1995) observation that most TMTs are behaviorally fragmented and, consequently, integrated teams are likely to be rare, valuable, and difficult to imitate. As a result, competitors who headhunt CEOs based on their firms' respective performance may also need to hire away a number of key executives and adopt their procedurally just approach to compensation to get their interrelated skills and teamwork, and even this might not be possible if the tendrils of social complexity stretch farther down into the firm.

Just as importantly, while there has been much empirical attention paid to the relationship between

CEO pay and firm performance (i.e., see the meta-analysis by Tosi *et al.*, 2000), the separate yet complementary role of top management team member pay has been all but ignored. As noted in the introduction, prior research has perhaps presumed that the determinants and consequences of top executive pay schemes are isomorphic with those of the CEO. However, for some of the reasons suggested in this study, there is clear divergence in how CEOs and their top lieutenants are respectively compensated. Moreover, TMT pay mediated or augmented the relationship between CEO pay and performance. Therefore, since the studies seeking to link CEO pay to firm performance have not traditionally accounted for TMT member pay (empirically or conceptually), and their results have been collectively ambiguous on the efficacy of CEO pay, it is very likely that TMT pay was a key source of unobserved heterogeneity in those prior studies.

Recall that we supplemented agency theory with theories of group behavior (i.e., equity and procedural justice) in order to develop our hypotheses linking top team compensation schemes to performance. Our overarching assumption was that teams may be better able to cope with the complexity arising from the management of large organizations, than would be independent managers or CEOs alone. This distinction is important since agency theory has its roots in a view of executives as solitary, independent actors, despite the fact that many top teams are likely to be more effective when their members function with common interests and unity of effort (i.e., exhibit frequent/rich information exchange, collaborative behavior, and joint decision making [Hambrick, 1995]). And while one can be cynical about the escalation of CEOs' total compensation, or whether they push for a greater proportion of long-term pay only when they have inside knowledge of favorable future performance (i.e., 'gaming' the system), the fact remains that those same chief executives still have considerable say in how, and how much, their other top managers are paid. Ironically then, the behavioral integration of the top team, and consequently firm financial performance, may suffer if other top executives are excluded from the opportunity to benefit in a similar fashion.

It is important to additionally note that the group behavioral perspective offered in this study is intended to enrich the potential contribution of agency theory, and agency-based theories such

as tournament theory, to our understanding of organizations and their actors. While agency theory is typically invoked to stress the alignment of executive and shareholder interests, we have argued that it may be equally important to manage the alignment of executives' interests within the firm. As Eisenhardt (1989) has argued, the power of agency theory is in its application to situations necessitating cooperative action. However, if executives are viewed as isolated agents when designing the compensation schemes that promote their individual-level cooperation (alignment) with shareholders' interests, then the determinants of 'team' effectiveness may be ignored or undermined. Specifically, what is optimal agent contracting at an executive/shareholder level, may become suboptimal at the TMT/shareholder level to the extent that a top team's behavioral integration is diminished and overall firm performance suffers. Our results for TMT long-term pay structure and over- and underpayment suggest some support for such a contention.

In conclusion, research on the determinants and consequences of executive compensation has typically focused on the CEO, and we showed that the pay scheme provided to members of the top team also has significant implications for firms' subsequent performance. Chief executive pay remains an important determinant, but in and of itself may be insufficient. Moreover, focus on the CEO alone may yield inconclusive results, or worse, results which mask or ignore the rich underlying team dynamic. Overall, our study contributes to the nascent yet growing stream of research that considers how corporate governance can impact and interact with the management of complex organizations and firm performance.

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