# Deep Structures in CEO Duality-Firm Performance Linkage

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**[Abstract]** Prior empirical research on CEO duality board structure has paid little attention to deep structures (tacit forces that govern the process, such as managerial task environment and social process) that modify the CEO duality-performance linkage. An empirical examination of 290 Fortune 1000 companies shows that CEO duality is related to superior firm performance when the firm's task environment is characterized by extensive business diversification, which highlights the structural benefit of organizational flexibility derived from CEO duality. However, counter-balancing tacit forces relative to CEO duality, such as institutional ownership concentration, board tenure, and board tenure heterogeneity, have negative moderating impacts on the relationship between CEO duality and firm performance. Implications of the results are discussed for future research.

**[Keywords]** CEO duality; deep structure; corporate diversification; institutional ownership concentration; board tenure; board tenure heterogeneity

Corporate governance research aims to achieve an effective governance system that ensures proper checks and balances at the corporate top, while facilitating efficient firm adaptation to a fast-changing business environment. Corporations operating in a complex and rapidly changing business environment adopt a CEO duality board structure (i.e., the CEO chairs the board of directors in the firm) primarily to promote organizational flexibility and adaptability while securing accountability in corporate leadership. In academic circles, more than two decades of research on the CEO duality-performance linkage has led to divergent and somewhat contradictory suggestions regarding the choice between CEO duality versus non-duality (Iyengar & Zampelli, 2009; Dalton & Dalton, 2011). For example, scholars focusing on the agency theoretic paradigm have emphasized that the CEO duality structure could potentially undermine the monitoring and control functions of the board of directors in a firm, having negative implications for firm performance (e.g., Rechner & Dalton, 1991; Jensen, 1993; Daily & Dalton, 1994; Davidson et al., 2004). On the other hand, management scholars focusing on organizational structure and managerial stewardship behavior have suggested the benefits of the CEO duality board structure, such as a unity of command, accountability in corporate leadership, and a trust-based CEO relationship (Donaldson & Davis, 1991; Brickley et al., 1997; Bhagat & Black, 2001; Faleye, 2007). Empirical resolution of these contrasting perspectives has proved to be problematic because of the conflicting research evidence of the performance implications of CEO duality (Dalton & Dalton, 2011).

The research endeavors centering on the CEO duality-performance linkage have been rhetorically so powerful and pervasive that researchers paid little attention to the deep structures (i.e., tacit forces governing the process) that co-exist with the formal, superficial structure of CEO duality. CEO duality as a social actor is embedded in the social process formed by governance constituents in the firm. CEO duality defines the structural form, but the "structure itself cannot structure some other aspects of social existence," such as politics and social formations (Sewell, 1992, p. 2). Social processes are not programmed by a structure itself (Blau, 1977; Carter & Lorsch, 2004). It could be argued that the existing ambiguity and controversy on the performance implications of CEO duality is derived from rigid, causal determinism based on the illusion on structure. The process would actually be formed by intangible, tacit forces in the relational dynamics among governance constituents. Tacit forces, such as managerial task environment and social process in the firm, should exert substantial influence on the boundaries and efficacy of CEO duality leadership. That is, a visible formal structure and latent processes produce an enactment of CEO duality and subsequent firm performance.

Therefore, the purpose of the current research is to reveal the role of deep structures in CEO duality leadership, such as task context and social process, which modify the CEO duality-performance linkage.

This study empirically examines the performance implications of CEO duality in the context of corporate diversification. In the past, a number of researchers have addressed the moderating factors in the CEO duality-performance link, such as external environmental characteristics (Boyd, 1995) and the CEO's backgrounds (Faleye, 2007). However, there has been a paucity of empirical research focusing on a specific executive task where the structural imperatives of CEO duality (e.g., organizational efficiency and accountability in decision-making) are particularly relevant. Moreover, the extant literature on CEO duality is characterized by the lack of empirical evidence that sheds light on the so-called organizational flexibility derived from combined leadership (Finkelstein & D'Aveni, 1994). Corporations pursuing a diversified portfolio of businesses experience a heightened demand for organizational efficiency and flexibility in both stages of diversification initiation and implementation (Palich et al., 2000). The informational environment for corporate diversification is highly complex for a board of directors to verify executives' diversification initiatives; the need for leadership accountability is heightened in the firm. In this regard, a task environment of corporate diversification provides a perfect research setting that reveals the moderating role of the managerial task environment in the CEO duality-performance linkage.

Second, this study focuses on tacit forces that influence the social process between the dual CEO and other governance constituents. One could assert that the separation and fusion of powers in corporate governance is a contrived division that takes place in the continuum between the CEO and the board of directors. Increases in a board's power of control would impact the relative power of the dual CEO. For example, directors who have served on the board for many years and are entrenched in the firm may have greater influence over the dual CEO. Institutional investors who possess large blocks of the firm's stock could exert significant voting power, challenging the dual CEO's leadership. Additionally, heterogeneity in board tenure, although beneficial in terms of variety of perspectives in boardroom discussion (Hillman & Dalziel, 2003) could hamper the interactive process (e.g., communication and cohesion) between the dual CEO and the board, reducing the coordination efficiency at the top of the corporation. Thus, stronger the power of control emanating from the board would impact the relative dynamics between the dual CEO and the board, constraining a dual CEO's latitude and executive efficiency in the firm. These conditions in the social process underlying the enactment of CEO duality could distort the implications of the CEO duality structure originally designed for unity of command, decision accountability, and CEO empowerment. Therefore, this study empirically examines the moderating roles of these tacit forces, such as institutional ownership concentration, board tenure, and board tenure heterogeneity in the CEO duality-performance relationship.

The findings of this study use a sample of 290 Fortune 1000 companies that provided empirical evidence that firms with CEO duality board structure have superior firm performance when the firm's task environment is characterized by extensive corporate diversification in which the imperatives for organizational flexibility and decision accountability become more salient for firm performance. Firms adopting a CEO duality board structure experience, however, decreased firm performance when the counter-balancing tacit forces relative to a dual CEO, such as institutional ownership concentration, board tenure, and board tenure heterogeneity, increase. The findings deviate from the conventional wisdom of checks and balances when applied to CEO duality, providing insights for resolving organizational design problems of CEO duality. The results suggest that deep structures (task context and social process) in which the dual CEOs are embedded should be simultaneously considered when firms make a choice between CEO duality versus non-duality for their board leadership structure.

## Theory and Hypotheses

### *Deep Structures in CEO Duality: Task Context*

CEO duality, a board leadership structure that combines the CEO and the board chairperson positions, has received considerable attention in both academic and practitioner circles (Ellstrand et al., 2002). The central issue in the debates has been on whether the two positions should be separated for independent leadership in the board of directors or combined for organizational efficiency and flexibility. In a constitutional design, the system of separation of powers and areas of responsibility is to prevent one branch's dominance over the other authorities and to secure checks and balances in governing a nation.

Similarly, splitting the CEO and board chair positions is to secure the balance of power and areas of responsibility in management initiation and decision control. As such, the agency theoretic framework applied to CEO duality suggests that giving the board chair position to the already-powerful CEO could break the checks and balances at the apex of the corporation, creating the danger of CEO entrenchment (Tuggle et al., 2010; Kim et al., 2009).

In comparison, the fusion of powers in government politics refers to a mingling of powers. The main imperative of fusion of powers is to facilitate the executives' ability to implement plans and objectives effectively and to clarify the leadership accountability, thereby enhancing the performance of the executive branch. CEO duality, analogous to the fusion of powers in political science, is a corporate governance model in which a leader of the executive branch serves as the leader of the board of directors. CEO duality ostensibly makes it easier for executives to take initiatives and actions in response to environmental changes. Moreover, as the firm's managerial and decision environment becomes more complex and dynamic, the board of directors and the shareholders become more attracted to CEO duality leadership for organizational flexibility and leadership accountability. A review of the extant literature suggests that, albeit the abundance of empirical research using an agency theoretic paradigm applied to CEO duality, little empirical research has shed light on structural benefits of CEO duality by relating CEO duality to specific task contexts, such as business diversification.

Corporate diversification is a firm's proactive domain expansion into related and unrelated industries when adapting to changing business environments. Corporate diversification is a critical strategic initiative that involves large-scale resource commitments with significant implications for firm performance (Hoskisson & Hitt, 1990). While some corporations enhance firm scale, scope, and profitability through business diversification, others fail to do so. Formulation of a diversification strategy involves a comprehensive analysis about the competitive structures in different market domains, as well as the conditions in internal firm resources and capabilities. Additionally, efficiency in organizational decision-making and implementation is an essential ingredient for proactive exploitation of market opportunities and subsequent firm performance through corporate diversification.

A CEO duality board structure fits the task context of corporate diversification. A combined leadership structure enhances the coordination efficiency between the decision initiation (executive) and decision control (board of directors), which is particularly relevant in making complex, strategic decisions, such as corporate diversification. To take timely actions necessary to capture the market opportunities in a fast-moving industry environment, efficient communication and coordination between the executive and the board of directors on diversification initiatives are critical. When the two counter-balancing parties of the executive team and the board of directors are separated, information asymmetries between the two branches become costly. In a situation in which coordination and integration of two parties are not well managed, boards may try to increase their power of control over management, often constraining executive efficiency, whereas executives may devise ways to reduce a board's control by skewing the information flows to the board to secure their discretion. Meanwhile, the combined leadership of CEO duality helps clarify a unity of command and leadership accountability, which reduces the chance of political deadlock between the executive and the board, facilitating firm adaptation to changing market situations.

Increased information cost by separating the roles of the CEO and the board chair is not minimal, in particular, for firms pursuing business diversification. Information asymmetry between the executives and the board often hampers the efficient firm adaptation (Brickley et al., 1997). Split leadership may hinder the efficient, complete information flow from the executive to the board or vice versa. By having the CEO, who has comprehensive access to business and industry situations to lead the board, the CEO can keep the directors, especially non-management directors, informed about current situations inside and outside of the organization, reducing informational imbalance between the two pivotal parties in corporate leadership (Brickley et al., 1997). In addition, CEOs serving as the board chair could better leverage the board resources, such as directors' professional experience, personal knowledge, and external ties, which enhance the decision comprehensiveness necessary for the performance of a firm with a diversification strategy. Therefore, efficient information processing and coordination at the apex of the corporation

attained through a CEO duality board structure would be a source for superior firm performance in firms with extensive business diversification.

Additionally, by entitling the CEO to serve as the board chair, firms with CEO duality promote a trust-based relationship that stimulates the dual CEOs' psychological motivation to maximize his or her pro-organizational stewardship behavior in serving the company (Donaldson & Davis, 1991). Empowerment to the CEO would be a necessary condition for the executive's risk-taking in initiating diversification strategies and driving organizational changes in the process of diversification implementation. Previous management scholars have also emphasized that powerful leadership, such as CEO duality, is particularly useful in a situation where significant changes are necessary (Brockmann et al., 2006). The need for empowerment and decision accountability would become more salient in firms with extensive corporate diversification given the informational complexity associated with a diversification strategy and heightened needs for organizational efficiency in diversification implementation. Based on the aforementioned rationale on the fit between a CEO duality board structure and a task environment of corporate diversification, the following hypothesis is presented:

*Hypothesis 1. CEO duality board structure will be positively related to firm performance when the firm has higher levels of corporate diversification.*

***Deep Structures in CEO Duality: Tacit Forces in Social Process***

Previous board researchers have emphasized that firm performance is influenced by an effective working relationship between the management and the board (Lawler & Finegold, 2005). As such, the interactive process among governance constituents, such as executives, boards of directors, and investors in the firm, provides a governance context in which dual CEOs initiate strategies and organizational changes. Splitting or combining the positions of CEO and board chair would not be a panacea. The conditions in the social process among governance constituents would, rather, have more substantial impact on the enactments of a dual CEO, such as CEOs' power, discretion, efficacy, and subsequent performance. Moreover, the dividing line in the continuum between the dual CEO and the board of directors is dynamic and subtle. Although the formal structure of CEO duality entitles the CEO to lead the board, boardroom conditions in a weak-versus-strong board would have different implications for dual CEOs' enactments. Dual CEOs may experience decreased discretion and occasionally face power struggles, especially when the board has stronger expert and control powers. Board members with significant equity ownership, titles of formal CEO, and long periods of board membership with the firm could substantially change the leadership context for dual CEOs.

Ownership structure in the firm, in particular the growth of institutional ownership, has substantial impacts on corporate strategies and governance behaviors, such as risk-taking propensity (Stearns & Mizruchi, 1993), firm strategies (e.g., Hoskisson et al., 2002), and executive power (Useem, 1996). Large institutional shareholders possess economies of scale in monitoring and controlling executives (Hadani et al., 2011), thereby exerting greater pressure on the CEO (Daily and Johnson, 1997). Hence, ownership concentration in a small number of large institutional investors in the firm could lead to a shift of powers in CEO-board dynamics, often reducing the CEO's managerial discretion and decision-making power (Kalyta, 2009). For example, in firms with CEO duality leadership, ownership concentration to a small number of large institutional investors could constrain a dual CEOs' managerial discretion and decision-making power, thus diluting the unity of command in the corporate leadership. In addition, power shifting often induces a competition for power (Mintzberg, 1983), which could lead to a political struggle that undermines the coordination and integration at the top of the corporation. The confusion and ambiguity about the corporate leadership could be intensified in firms with CEO duality because the structure was originally designed for unity of command and empowerment of the CEO's corporate leadership. Consequently, organizational flexibility and efficiency in a firm's adaptation decreases, which, in turn, will negatively affect firm performance when led by CEO duality.

*Hypothesis 2. A CEO duality board structure will be negatively related to firm performance when the firm's equity ownership is concentrated in a small number of institutional investors.*

Previous board researchers have suggested that the composition of a board has an impact on a CEO's power relative to the board (Boeker, 1992; Daily & Johnson, 1997). For instance, greater tenure experience with the firm provides directors with richer and more comprehensive information about the organization and business models in the industry, thus increasing the board's expert power in monitoring and controlling the management (Golden & Zajac, 2001). To the contrary, boards with a very low average tenure may remain as a statutory board, exerting limited influence over managerial decisions due to the lack of expertise about the firm's operations and organizational resources (Kalyta, 2009). A shift of power to the board suggests a diminished executive leadership power in CEO-board dynamics, thereby providing a constraining effect on the discretion and latitude of dual CEOs. Increased power of the board in light of the dynamics between the dual CEO and the board could lead to rival factions and political competition for power, which prevents directors and the CEO from focusing on substantive strategic issues. The potential for political struggle would be greater in firms with CEO duality leadership, which is chosen for a unity of command and leadership accountability. Coordination inefficiencies between the executive and a board are detrimental, often resulting in delayed decision-making at the apex of corporation and inefficiency in the process of strategic firm adaptation to environmental changes. Thus, longer average tenure of the board increases the potential for power competition with the dual CEO while impairing coordination and organizational efficiency at the top of the corporation, which, in turn, will negatively affect firm's performance as led by CEO duality.

*Hypothesis 3. CEO duality board structure will be negatively related to firm performance when the board has higher average tenure with the firm.*

Previous researchers focusing on group demography have suggested that team members in a demographically dissimilar group membership experience process inefficiency in group dynamics (e.g., Pelled et al., 1999). Furthermore, demographic dissimilarity among group members often engenders behavioral disintegration, further reducing the process efficiency among group members (Li & Hambrick, 2005). Empirical evidence suggests that tenure heterogeneity among group members is positively related to decreases in interaction, communication, and collective effort (Smith et al., 1994). Likewise, the board as a decision-making group would have similar group dynamics and behaviors (He & Huang, 2011). For instance, board members of a common tenure group are likely to share similar knowledge structures and frames of reference, which facilitates communication and interpersonal interactions among the board members. Heterogeneity in board tenure not only decreases the board's internal process efficiency, but also could compromise the coordination between the dual CEO and the board. That is, dual CEOs leading a cognitively diverse board have to deal with divergent and often conflicting perspectives. If a board is composed of members possessing diverse professional paradigms and priorities, the board itself may have difficulties in achieving consensus, delaying the ratification of management proposals that further the process of firm adaptation. Dual CEOs who chair a demographically heterogeneous board may rely more on formal communication resulting in rigid coordination with the board, which will decrease the efficiency of information processing and decision making at the top of the corporation. This line of argument posits that

*Hypothesis 4. CEO duality board structure will be negatively related to firm performance when the board membership has higher levels of tenure heterogeneity.*

## Methods

The sample for this study was drawn from the Fortune 1000 list for the year of 2002. A data set of Fortune 1000 firms was chosen for the generalizability of the study's results, since Fortune 1000 firms encompass a variety of industries, diversification postures, and corporate governance structures. Given the imbalance in the distribution of firms adopting CEO duality and non-duality (i.e., much larger portion of U.S. large corporations adopts CEO duality), a stratified random sampling was used in choosing the sample firms based on the criterion of CEO duality versus non-CEO duality. Thus, data for 145 duality

and 145 non-duality firms were collected and used for the statistical analyses.

***Measures***

*Independent and dependent variables. CEO duality* was coded as a binary variable. An individual who serves both the CEO and board chair positions was coded as 1 and 0 otherwise. Information on board leadership structure was obtained from companies' proxy statements. The dependent variable of *Firm performance* is captured by the return on assets (ROA) for the year of 2002 using data from Standard & Poor's Compustat.

*Corporate diversification.* The entropy measure of diversification (Jacquemin & \Berry, 1979) is used in measuring the degree of business diversity in the corporation. The entropy measure is a continuous measure capturing both the extent of business diversity and the related versus unrelated lassification (SIC) code, the entropy measure potentially eliminates researchers' subjectivity in classifying industry domains (Martin & Sayrak 2003). The degree of corporate diversification ( $E_t$ ) was calculated as

$$E_T = \sum_{i=1}^{n} P_i \ln(1/P_i)$$

where $P_i$ is the percentage of a firm's total sales in the ith industry segment (four-digit SIC code), n is the number of the firm's businesses, and $\ln(1/P_i)$ is the logarithm of the inverse of its sales. Larger values represent greater levels of diversification and unrelatedness among business lines. Data for the line-of-business sales were obtained from Compustat.

*Ownership concentration, board tenure, and board tenure heterogeneity.* Institutional ownership concentration was calculated using the Herfindahl Index for the top five institutional investors in a firm (e.g., Baysinger et al., 1991). A larger value in the Herfindahl index indicates a more concentrated ownership structure in a firm, and the data on institutional equity holdings were collected from the Mergent database. Board tenure was measured as the average of board members' tenure (in terms of number of months) with the firm. Board tenure heterogeneity capturing board's compositional effects was measured using the coefficient of variation, defined as the standard deviation divided by the mean (Pelled et al., 1999). Larger coefficients imply greater heterogeneity among board members' tenure. Information about individual directors' tenure was obtained from companies' proxy statements.

*Controls*. Several control variables were included in the empirical model to isolate the effects of the hypothesized variables on firm performance. Firm size, measured as the logarithm of total annual revenue, was included to control for the potential impact of scale economies on firm performance. The annual revenue data was obtained from Compustat. Industry growth was included as a control for the effects of industry characteristics on firm performance. Categorization of industry was based on the two-digit SIC code. CEO equity ownership was included to reflect the impact of managerial ownership on firm performance and measured as the percentage of total common equity owned by CEOs. Board size was included to control the potential impact of board size on firm performance and was measured as the logarithm of the number of directors on the board to capture the curvilinear effect of board size on a firm's performance. Board independence was controlled using the independence-interdependence measure (Boeker, 1992). This measure defines independent directors as outside board members who were appointed prior to the current CEO. Directors who were appointed to the board prior to the current CEO are regarded as relatively more independent from the CEO. Board composition data was available from corporate annual proxy statements.

***Analytic Methods***

Hierarchical regression analysis was used to test the moderating effects of the variables on the relationship between CEO duality and firm performance. Control variables included in this study were entered in the first hierarchical step. After entering the control variables, the independent variable of CEO duality was entered. Then, the moderating variables of corporate diversification, institutional ownership concentration, board tenure, and board tenure heterogenity were entered. The two-way interaction terms

were then entered in the final regression model. Coefficient and incremental variances explained by the two-way interaction terms were tested for significance (Cohen et al., 2003).

## Results

Descriptive summary statistics and correlations among variables in the study are shown in Table 1. Sample firms had on average 10.9 directors on their board. CEOs, on average, had 1.9 percent of the equity ownership with the firm, but a large variation exists in the CEO equity ownership (s.d.=0.05). Simple t-tests show that there is no significant difference between two groups of CEO duality and non-duality firms in terms of board independence and CEO equity ownership. The examination of correlation coefficients shows that CEO duality is correlated with higher levels of corporate diversification ($p<0.01$). There was also a positive correlation between firm size and firms' adoption of a CEO duality board structure ($p<0.001$).

**Table 1.** *Descriptive Statistics and Pearson Correlation Coefficients*

| | Mean | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Firm Performance** | 2.74 | 9.23 | | | | | | | | | | | |
| **CEO Duality** | 0.50 | 0.50 | 0.07 | | | | | | | | | | |
| **Corporate Diversification** | 0.70 | 0.56 | -0.06 | 0.20 ** | | | | | | | | | |
| **Institutional Ownership Concentration** | 0.02 | 0.02 | -0.09 | -0.06 | -0.13 * | | | | | | | | |
| **Board Tenure** | 99.72 | 43.10 | 0.09 | -0.12 * | 0.03 | -0.03 | | | | | | | |
| **Board Tenure Heterogeneity** | -0.22 | 0.32 | 0.14 * | 0.10 † | -0.04 | -0.02 | 0.35 *** | | | | | | |
| **Firm Size** | 13.19 | 22.05 | 0.03 | 0.24 *** | 0.18 ** | -0.07 | -0.02 | 0.00 | | | | | |
| **Unrelated Diversification** | 0.22 | 0.30 | -0.13 * | 0.19 ** | 0.57 *** | -0.07 | 0.07 | -0.03 | 0.23 *** | | | | |
| **Industry Growth** | 0.06 | 0.07 | 0.02 | -0.03 | -0.02 | -0.10 † | -0.05 | -0.12 * | 0.04 | 0.07 | | | |
| **CEO Equity Ownership** | 0.02 | 0.05 | 0.08 | 0.04 | 0.06 | -0.05 | 0.00 | 0.01 | -0.02 | 0.08 | -0.01 | | |
| **Board Size** | 10.90 | 2.81 | 0.08 | 0.12 * | 0.14 * | -0.17 ** | 0.12 * | 0.11 † | 0.28 *** | 0.08 | -0.02 | -0.08 | |
| **Board Independence** | 0.47 | 0.29 | -0.11 † | -0.10 † | 0.10 † | 0.06 | 0.20 ** | 0.27 *** | 0.01 | 0.07 | -0.05 | -0.22 *** | 0.13 * |

N = 290; † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

The examination of the correlation matrix suggests little evidence of multicollinearity between independent variables entered in the regression models. However, when the interaction terms for testing the moderating effects were entered in the regression model, it showed a concern for collinearity between CEO duality and ownership concentration, and between CEO duality and board tenure (Variance Inflation Factor was 3.95 and 4.84, respectively). Thus, scale transformation (mean centering) was applied on the variables of institutional ownership concentration and board tenure (Aiken & West, 1991). After the scale transformation, multicollinearity was no longer a significant problem in the regression analyses, since all of the variance inflation factors within the regression models were below three after the scale transformation. Checks for possible violations of normality assumptions in the data revealed skewness in the distribution of data on the variables of CEO equity ownership, institutional ownership concentration, and firm size. Therefore, log transformation was applied on these variables.

**Table 2.** *Moderating Effects of Corporate Diversification in CEO Duality-Performance Linkage*[1]

| Variable | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Intercept | -7.36 (5.73) | -6.04 (5.88) | -6.03 (5.90) | -5.30 (5.87) |
| Firm Size | 0.58 (0.55) | 0.33 (0.60) | 0.33 (0.60) | 0.30 (0.60) |
| Unrelated Diversification | -4.35* (1.81) | -4.52* (1.82) | -4.61* (2.19) | -5.16* (2.19) |
| Industry Growth | 0.19 (7.45) | 0.84 (7.48) | 0.89 (7.51) | 1.83 (7.48) |
| CEO Equity Ownership | 0.62 (0.39) | 0.61 (.39) | 0.62 (.39) | 0.71† (0.39) |
| Board Size | 11.79* (5.41) | 11.90* (5.41) | 11.86* (5.43) | 12.99* (5.43) |
| Board Independence | -2.53 (1.98) | -2.32 (1.99) | -2.33 (2.00) | -1.74 (2.00) |
| Institutional Ownership Concentration | 0.33 (0.26) | 0.34 (0.26) | 0.34 (0.26) | 0.35 (0.26) |
| CEO Duality | | 1.20 (1.21) | 1.19 (1.21) | -1.61 (1.79) |
| Corporate Diversification | | | 0.09 (1.20) | -2.08 (1.57) |
| CEO Duality × Corporate Diversification | | | | 4.23* (2.00) |
| $R^2$ | 0.06 | 0.07 | 0.07 | 0.08 |
| F-test | 2.68* | 2.47* | 2.19* | 2.44** |
| $\Delta R^2$ | 0.06 | 0.00 | 0.00 | 0.02 |
| F-test for $\Delta R^2$ | 2.68* | 0.99 | 0.01 | 4.49* |

N = 290; † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$

Table 2 reports the results of the hierarchical regression analyses. Hypothesis 1 predicts that CEO duality will be positively related to firm performance when the firm has higher levels of corporate diversification. The results of the analyses provide evidence that CEO duality is positively related to firm performance when the corporation's business portfolio has higher levels of diversification in different market domains, which was indicated by the significant R-square change and significant regression coefficient of the interaction term, thus supporting Hypothesis 1 (4.23; $p$<0.05; regression model 4, Table 2). The results provide evidence that a CEO duality board structure contributes to firm performance in the task context of corporate diversification in which organizational flexibility and efficiency are imperative for superior firm performance.

A supplementary analysis was conducted focusing on the task context of unrelated diversification to further verify the results. Unrelated diversification is an increased unrelatedness among business lines, which suggests a greater coordination and integration need to achieve synergy across business units and overall higher returns from the investments. Furthermore, informational and decision contexts for executives and boards of directors become more complex as decision-makers have to deal with more diverse, often distinctively different industry conditions. The unrelated diversification portion in the entropy measure was captured by the degree to which a firm's sales are allocated across unrelated (different two-digit SIC codes) industry segments (Clarke et al., 2004). The results show that CEO duality

[1] Unstandardized coefficients are reported; the figures in parentheses are standard errors. N= 290 for all models.

is positively associated with firm performance when the firm has higher levels of diversification into unrelated industry domains, which was indicated by the significant R-square change and significant regression coefficient of the interaction term (9.19; $p<0.05$). The results further emphasize the structural benefits of CEO duality, such as organizational flexibility, efficiency, and leadership accountability, that lead to superior firm performance with unrelated diversification strategy.

Hypothesis 2 predicted that institutional ownership concentration will have a negative moderating impact on the relationship between CEO duality and firm performance. That is, the presence of institutional ownership concentration in the firm will have a negative interactive effect with CEO duality on firm performance. The results of the analyses partially supported Hypothesis 2 that institutional ownership concentration has a negative moderating effect on the relationship between CEO duality and firm performance (-1.29; $p<0.10$; regression model 4, Table 3). The findings suggest that firm performance led by CEO duality decreases when the firm's equity ownership is concentrated in a small number of institutional investors.

**Table 3.** *Moderating Effects of Governance Contexts in CEO Duality-Performance Linkage* [1]

| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| Intercept | -19.83* (8.53) | -19.43* (8.53) | -16.62† (8.82) | -11.36 (9.27) | -19.50* (8.91) | -12.09 (8.73) |
| Firm Size | 0.57 (0.81) | 0.21 (0.88) | 0.71 (.86) | 0.47 (0.87) | 0.83 (0.86) | 0.69 (0.84) |
| Unrelated Diversification | 0.32 (0.81) | 0.28 (0.81) | 0.39 (0.78) | 0.51 (0.78) | 0.48 (0.78) | 0.80 (0.77) |
| Industry Growth | -20.61† (10.88) | -18.84† (11.00) | -13.32 (10.82) | -12.08 (10.77) | -12.02 (10.77) | -7.07 (10.75) |
| CEO Equity Ownership | 0.34 (0.58) | 0.39 (0.58) | 0.01 (0.57) | 0.02 (0.57) | 0.02 (0.57) | 0.17 (0.56) |
| Board Size | 19.97* (8.42) | 21.40* (8.52) | 15.11† (8.41) | 15.67† (8.35) | 13.92 (8.38) | 14.06† (8.19) |
| Board Independence | -1.59 (2.75) | -0.94 (2.81) | -3.98 (2.83) | -3.51 (2.83) | -3.45 (2.83) | -3.22 (2.77) |
| | | | | | | |
| CEO Duality | | 1.94 (1.76) | 1.60 (1.73) | 1.90 (1.73) | 1.88 (1.73) | -1.24 (1.94) |
| | | | | | | |
| Institutional Ownership Concentration | | | 0.49 (0.35) | 1.36* (0.61) | 0.57 (0.35) | 0.58† (0.34) |
| Board Tenure | | | 0.02 (0.02) | 0.02 (0.02) | 0.05* (0.03) | 0.02 (0.02) |
| Board Tenure Heterogeneity | | | 6.81** (2.52) | 7.07** (2.51) | 6.75** (2.50) | 14.28*** (3.51) |
| | | | | | | |
| CEO Duality × Institutional Ownership Concentration | | | | -1.29† (0.74) | | |
| CEO Duality × Board Tenure | | | | | -0.06† (0.04) | |
| CEO Duality × Board Tenure Heterogeneity | | | | | | -13.73** (4.61) |
| | | | | | | |
| $R^2$ | 0.07 | 0.08 | 0.16 | 0.18 | 0.18 | 0.21 |

[1] Unstandardized coefficients are reported; the figures in parentheses are standard errors. N= 290 for all models.

| F-test | 1.98 | † | 1.88 | † | 2.81 | ** | 2.86 | ** | 2.87 | ** | 3.49 | *** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\Delta R^2$ | 0.07 | | 0.01 | | 0.08 | | 0.02 | | 0.02 | | 0.05 | |
| F-test for $\Delta R^2$ | 1.98 | † | 1.22 | | 4.66 | ** | 3.03 | † | 3.10 | † | 8.86 | ** |

N = 290; † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Hypothesis 3 predicted that longer board tenure will have a negative, moderating effect on the relationship between CEO duality and firm performance. Longer board tenure, which is a source for a board's resources and power in monitoring and controlling the CEO, would have a negative impact on firm performance led by CEO duality. The results partially supported Hypothesis 3, which was indicated by the significant R-square change and significant regression coefficient of the interaction term (-0.06; *p*<0.10; regression model 5, Table 3). The results suggest that firm performance led by CEO duality decreases when the board has higher average board tenure.

Hypothesis 4 predicted a negative moderating effect of board tenure heterogeneity on the relationship between CEO duality and firm performance. The results of the analyses provide evidence that CEO duality is negatively related to firm performance when the board composition is characterized by higher tenure heterogeneity, which was indicated by the significant R-square change and significant regression coefficient of the interaction term, thus supporting Hypothesis 4 (-13.73; *p*<0.01; regression model 6, Table 3). The results suggest that firms with a CEO duality board structure experience decreased firm performance when dual CEOs interact with board tenure heterogeneity. The control variable of board size had a positive effect on firm performance (*p*<0.05). Other control variables in corporate governance did not have a significant impact on firm performance.

## Implications And Future Research

The central issue of CEO duality has been the question "Why do a great number of large U.S. corporations, including foreign MNCs, adopt the CEO duality board structure, despite the criticisms that favor a separation of powers and areas of responsibility?" The results of the empirical examination of 290 Fortune 1000 firms provide evidence that corporations that combine the positions of CEO and board chairperson had superior firm performance when the firm has higher levels of corporate diversification. The fusion of management implementation and decision control through CEO duality board structure fits the task context of corporate diversification where organizational flexibility in strategy initiation and implementation is critical for firm performance. The results of the supplementary analyses focusing on the task environment of unrelated diversification further strengthen the concept of the fit between CEO duality and the task environment of corporate diversification. By having the CEO chair the board, coordination cost and information asymmetries between the executive branch and the board of directors diminish. Besides, CEOs, including top executives, might be better able to utilize board's resources that the board members bring to the firm, which is crucial for the effectiveness of complex strategic decisions such as corporate diversification. Moreover, CEO duality is a psychological empowerment to the CEO based on a trust relationship, thereby encouraging managerial stewardship behavior, which is of importance for firms operating in a highly complex managerial task environment.

Second, the current study focuses on the moderating impacts of tacit forces in the relationship between CEO duality and firm performance. The results show that higher control power emanating from a higher institutional ownership concentration has a negative moderating effect in CEO duality-performance relationship. Likewise, boards with higher average tenure with the firm, which equates to an increased board's expert power in oversight role, has a negative impact on a firm's performance when led by CEO duality. The results provide an insight that agency theoretic premise applied to CEO duality may have different implications. That is, these counter-balancing control mechanisms relative to dual CEOs could have negative implications for firm performance, especially in CEO duality firms, due to the increased confusions and ambiguity regarding the powers and leadership authority. Furthermore, implicit forces in the social process are complex and subtle that confusion about corporate leadership could lead to political struggle between management initiation and decision control, often delaying managerial

initiatives and firm adaptation.

Hypothesis 4 focuses on the moderating effect of board tenure heterogeneity in the CEO duality-performance relationship. The findings of this study show that board tenure heterogeneity has a negative moderating impact on a CEO duality-performance linkage. Dual CEOs interacting with a board that is composed of board members whose organizational and industry backgrounds are heterogeneous may rely more on formal communication in interpersonal interactions. Inefficiency in board's internal dynamics leads to an increased coordination cost between the CEO and the board, reducing organizational efficiency at the top of the corporation. Although board independence in thoughts and minds could be enhanced in such a board's compositional conditions due to the decreased pressure for conformity and cohesion, the structural benefits of CEO duality originally adopted for organizational efficiency and flexibility would be undermined. Therefore, the current research that sheds light on the ramifications of these control mechanisms when applied to CEO duality should extend the knowledge about the social process in CEO duality leadership.

In academic circles, the agency theory emphasizing the separation of powers for effective checks and balances in corporate governance has been the dominant theoretical premise in interpreting the implications of the CEO duality structure. This emphasis causes researchers to pay less attention to the negative and/or constraining effect that separation of powers could ultimately have upon corporate performance by limiting the efficiency potential of a CEO duality board structure. In this fashion, the paradigm emphasizing the counter-balance between the executive branch and the board of directors has influenced corporate governance researchers to focus on the efficacy of governance mechanisms on controlling the managerial behavior. Meanwhile, practicing managers tend to support the argument that linking the executive team and the board of directors through the structure of CEO duality would promote organizational efficiency and flexibility. The results of this study provide evidence that controlling the dual CEOs through institutional ownership concentration, longer board tenure, and board tenure heterogeneity have negative impacts on firm performance when firms adopt a combined leadership structure. Increasing a board's control power does not necessarily mean there is effective control over a dual CEO; rather, it could cause confusion in unity of command and political struggles, diminishing organizational efficiency. The results provide an important insight for corporate governance researchers that a unidimensional prescription regarding the role of control mechanisms should be avoided, and one approach in bridging the gap between the divergent perspectives would be the incorporation of contextual variables, such as managerial task environment and social process.

Furthermore, the controversy centering on the performance implication of CEO duality is derived from the lack of research on deep structures, such as task context and social process. Formal structure of duality versus non-duality would have superficial effect in the absence of process in which dual CEOs are embedded. There would not be a clear division line between the structure and process; rather, structure and process are intertwined and together produce organizational outcomes. As such, the results of this research spur the theoretical development in pursuing a governance model that strikes the right balance between effective leadership and good governance (Lorsch & Zelleke, 2005). A number of limitations in this study are noted, which should also provide an avenue for future research. The process dynamics among governance constituents would be subtle and complex. This research relied on a compositional measure of board demographic heterogeneity in capturing the board's compositional effect on board process. Future research focusing on dyadic relationships among board members should further clarify the effect of board's composition on the dynamics between the dual CEO and a board. Besides, the origin of the CEO (e.g., CEO externalities, CEO experience) would also influence the social process and leadership efficacy of the dual CEO. Moreover, leadership power is often shared among group members in a socially constructed context (Carson et al., 2007) and relational contexts among governance constituents change over time as one party gains power, capabilities, and experience. Future research that reveals these subtle dynamics in social process should extend the knowledge about the organizational design problems of CEO duality board structure.

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