

WHEN DOES THE BOARD BLAME THE CEO FOR POOR FIRM PERFORMANCE?**EXTREME RESOURCE REALLOCATION AND THE BOARD'S INDUSTRY AND
CEO EXPERIENCE****Christodoulos Louca**

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ABSTRACT

This study sheds more light on our understanding of when boards dismiss the CEO by considering the inherent conflict created by the board's advisory role when the firm underperforms. Using a sample of US firms listed in Standard and Poor's ExecuComp for the period 2000-2012 we find that, when a firm underperforms, extreme resource reallocation increases the likelihood of CEO dismissal. This relationship is positively moderated by the board's industry and CEO experience. The study contributes to the literature on corporate governance by identifying the conditions that trigger dismissal of the CEO in light of boards' motive to protect their reputation.

INTRODUCTION

CEO dismissal, defined as a CEO's involuntary exit from a firm, is perhaps one of the most important decisions that can be made by corporate boards (Wiersema, 2002) because the CEO is regarded as the key leadership figure in the firm; (i) is accountable for firm performance (Finkelstein et al., 2009), (ii) is responsible for selecting and managing internal resources, including the top management team (Bower, 1970, Flynn and Staw, 2004), and (iii) is making decisions about where to allocate resources (Child, 1972, Porter, 1980).

A number of perspectives on CEO dismissal, such as the organizational adaptation perspective (Tushman and Rosenkopf, 1996, Wiersema and Bantel, 1993, Dasgupta et al., 2017), the agency perspective (Bruton et.al, 2000, Zhang, 2008), and ritual scapegoating (Boeker, 1992, Gamson and Scotch, 1964), suggest that boards should dismiss CEOs when firm performance is poor (Tushman and Rosenkopf, 1996). Empirical research has confirmed this relationship (Harrison et al., 1988, Huson et al., 2001, Warner et al., 1988). Nevertheless, many contingent factors are found to moderate this relationship in different directions (Park et al., 2014, Wiersema and Zhang, 2011, Wowak et al., 2011, Flickinger et al., 2016). For example, drawing on the socio-

political perspective some studies have examined factors that introduce bias in the decision to dismiss the CEO, such as, board relationships and values (Flickinger et al., 2016, Fredrickson et al., 1988, Gomulya and Boeker, 2016, Guest, 2019).

Despite the immense contribution of the literature to what is known about this important and complex phenomenon, our understanding of a board's decision to dismiss the CEO is still tenuous (Weber and Wiersema, 2017). A contributor to this haziness is the assumption of most studies that boards are motivated to serve shareholder interests (Davis et al., 1997), which let researchers pay less attention to board biases that emanate from agency problems in the decision to dismiss the CEO (Shen and Cho, 2005). Nevertheless, scholars support the view that the external directors of the board advise the CEO on firm strategy (Garg and Eisenhardt, 2017, Hillman and Dalziel, 2003, Krause et al., 2013). Consequently, when the firm underperforms the board that advises the CEO on strategy on average may be unwilling to dismiss the CEO (Ward et al., 1999), because it may send negative signals to shareholders about the board's ability to competently execute its advisory duties, which may have implications for their current and future appointment and their compensation (Cannella and Shen, 2001, Weber and Wiersema, 2017). Thus, the decision to dismiss the CEO of a board of directors that is motivated to preserve their reputation as experts (Fama and Jensen, 1983) may depend on their ability to demonstrate CEO wrong-doing to shareholders. Indeed, studies have suggested that boards can make inappropriate decisions when they are concerned about the way in which shareholders will perceive their performance (Holmström, 1999, Fisman et al., 2014). In light of these arguments, an important question merits examination: when boards attribute poor performance to the CEO?

To answer this question we draw on attribution theory which suggests how boards assign accountability for outcomes (Kelley, 1973), and on corporate governance literature which

describes the role of the board, to posit that the advisory role of the board creates an agency problem when the firm exhibits poor performance. This is because, besides the CEO, the board of directors assumes responsibility of the outcome as well. Consequently, to protect their reputation, boards are inclined to attribute poor performance to the CEO and not to external factors, only when they can unquestionably blame the CEO for poor performance. The board is motivated to dismiss a less performing CEO because they miss out reputational benefits derived from their association with a high performing CEO. We argue therefore, that more deviant resource reallocation actions provide the board of directors with an opportunity to blame the CEO and disassociate them-selves from poor performance. Extreme resource reallocation actions may become influential in this assessment because they largely reflect the CEO's deviance from previous firm resource allocations and from industry consensus (Quigley and Hambrick, 2012). Researchers have suggested that CEOs have a choice either to pursue resource reallocations that follow the industry wisdom and the firm's past practices, or to deviate from them (Carpenter, 2000, Finkelstein and Hambrick, 1990). Drawing on this literature, we identify a range of responses showing how far a CEO's action is from the firm practice and the industry trend. Extreme actions entail a very different perspective on the firm's environment, which places the CEO apart from their peer CEOs and from previous firm resource allocations, thus provides an opportunity for the board to dismiss the CEO without compromising its reputation.

In this context, CEO dismissal may be contingent on the board's capacity to advise the CEO (Westphal and Fredrickson, 2001) and to observe and interpret CEO actions to establish deviance (Helfat and Peteraf, 2015). Higher industry and CEO experience may raise the board's involvement in advising the CEO, tying their interests tighter together. In addition, this experience may help to interpret more effectively the resource reallocation actions of the CEO and give the

board more confidence in deciding when to dismiss the CEO. We test and confirm these hypotheses using firms listed in Standard and Poor's ExecuComp for the period 2000-2012 and a Cox (1972) semiparametric proportional hazard model. Our results are robust (i) to an alternative methodology using a conditional (fixed effect) logistic regression, and (ii) to possible endogeneity between extreme resource reallocation and factors that may also affect the hazard of CEO dismissal.

This study considers the interests of the board in the context of its role as both advisor and monitor of the CEO and stipulates that the board's advisory responsibilities create board monitoring agency problems when the firm underperforms, since board directors are motivated to protect their reputation as trusted advisors. Such positing enhances our understanding of the CEO dismissal phenomenon since it identifies conditions that trigger the removal of the CEO. Most studies have examined the advisory role of the board separately from its monitoring role (Hillman and Dalziel, 2003), and therefore have been unable to discern the negative influence of the board's advisory role on the board's monitoring function. In addition, we identify a dark side of the board's human capital. In poor firm performance, higher board human capital ties together the interests of the board and the interests of the CEO more closely, since boards engage more in advising the CEO, which increases their motivation to attribute poor performance to external factors when the CEO pursues less deviant resource re-allocation actions.

BACKGROUND AND HYPOTHESES

The resource dependence theory posits that boards engage in different types of activity to provide the firm with access to resources (Pfeffer and Salancik, 1978). One such activity is to advise the CEO on strategic initiatives (Kor and Misangyi, 2008). In this respect, scholars note that firms are under considerable pressure from stakeholders to actively involve the board, especially the external

directors, in strategy formulation (Westphal and Fredrickson, 2001, Westphal and Zajac, 1997). In this capacity, directors may use their experiences and expertise to advise the CEO on strategic issues (Khanna et al., 2014). Therefore, the board's human capital is deemed important (Westphal and Fredrickson, 2001, Haynes and Hillman, 2010) and influences firm performance (Daily and Dalton, 1993). Nevertheless, studies have shown that board advice does not always have a positive impact on firm performance; but it depends on context (Carpenter and Westphal, 2001, Krause et al., 2013, McDonald et al., 2008). For example, Krause et al. (2013) have found that the presence of external CEO/presidents on the board contributes to firm performance when the operating efficiency is declining but has a negative influence on performance when the operating efficiency is improving.

In addition, the board is responsible for monitoring firm performance by controlling potentially entrenched CEOs (Fama and Jensen, 1983). According to agency theory, boards should control the CEO to ensure that he/she acts in line with shareholder interests, because the separation of ownership and managerial control creates agency problems (Jensen and Meckling, 1976). Through the monitoring function, boards access information about the CEO's capacity to manage the environment and to create long-term value for shareholders. Consequently, when the firm underperforms the board makes attributions about the causes of poor performance (Haleblian and Rajagopalan, 2006).

Attribution theory is advanced in the field of social psychology to explain how individuals make sense of their world and control their environment (Heider, 1958). According to this theory individuals identify and evaluate causes of events (Kelley, 1967, 1973, Weiner, 1983, 1985), which helps explain their feelings, expectations and behaviour (Luthans and Church, 2002). Within organizational science, attribution theory maintains that the perception of achieving a negative

outcome motivates an interested observer to identify what has caused the outcome. Thus, central to attributions is the ability of the evaluator to observe the actions of the assessed person that relate to the outcome (Tomlinson and Mayer, 2009). As a result, information about CEO actions that relate to firm performance may help the board blame the CEO for poor performance. Nevertheless, attributions are biased since assessments are ‘motivated’ or ‘self-serving’ (Bettman and Weitz, 1983, Zuckerman, 1979). For example, Bettman and Weitz (1983) examining Letters to Shareholders have found that poor performance was attributed more to uncontrollable causes compared to positive performance.

Boards can be effective monitors if they are independent and vigilant (Krause et al., 2013). Although scholars agree that boards are loyal to shareholders (Davis et al., 1997), some studies have shown that on certain occasions bias directs the board’s assessment of the CEO (Fredrickson et al., 1988, Gomulya and Boeker, 2016). One source of bias may result from agency problems associated with board directors’ concerns about their reputation and about preserving their seats on the board (Daily et al., 2003, Fama and Jensen, 1983). Impressions management, defined as any behavior that alters or maintains a person’s image in the eyes of another and has as a purpose the attainment of some valued goal (Villanova and Bernardin, 1989), has been used to explain different strategies for dealing with the risk of stigmatization (Shepherd and Haynie, 2011, Sutton and Callahan, 1987). Two main impression management strategies include the strategy of concealing information and the strategy of denying responsibility (Sutton and Callahan, 1987). In the context of the CEO dismissal decision, the board, motivated to protect its reputation, may rush to attribute poor performance to external factors or blame the CEO’s grandiose actions. Nevertheless, studies of corporate governance have mainly concentrated on the board’s and CEO’s

efforts to manage the impressions of shareholders and external stakeholders in order to derive benefits for the firm (Graffin et al., 2011, Westphal and Graebner, 2010).

Deviant Resource Reallocation Actions and CEO Dismissal

A key responsibility of the CEO is the implementation of strategy by redeploying resources in a way that supports the achievement of certain strategic objectives (Andrews, 1971, Child, 1972). Consequently, resource reallocation actions may become an influential factor of poor performance attribution, because these are key contributors to firm performance (Quigley and Hambrick, 2012). However, poor performance may arise not only from CEO actions but also from environmental factors which are beyond the CEO's control (Holmstrom, 1982, Papadakis and Barwise, 2002). Given that the board directors are motivated to protect their reputation when the firm underperforms, it is in their interest to blame the CEO when they can support wrong-doing, or alternatively, attribute poor performance to external factors which are not easily observable, such as an unexpected change in the economic environment.

More deviant resource reallocation actions reflect the CEO's different perspective from that of their peer CEOs on the opportunities and threats that are likely to emerge from the changing environment. In addition, it captures grandiose behavior that is not consistent with the firm's previous resource allocations and that is not in line with industry consensus (Zhang and Rajagopalan, 2010, Arena et al., 2018). As a result, the board is more likely to perceive that it can support the charge that the CEO is responsible for poor performance. More specifically the board may support that the CEO made incorrect assessments of the developments in the environment and miscalculated risks involved in the resource reallocation, and therefore, the CEO might be a liability for the firm.

In contrast, resource reallocation that is closer to the firm's previous resource allocations and close to industry trends suggests a pattern of resources that is safer, in that it reflects peers' collective view of the external conditions (Park, 2007, Datta et al., 2003). Thus, CEOs that reallocate resources more in line with firm previous allocations and with industry wisdom rely on past firm experiences and information cues from peers as a means of avoiding errors and reducing organizational risk. In addition, CEOs may be seen to exhibit an understanding of their environment that is comparable with the understanding of their counterparts in competing firms. Therefore, poor performance associated with less deviant resource reallocation may indicate that the CEO's comprehension of the environment is comparable to industry wisdom and that the modest risk taken is not the source of the firm's poor performance. As a result, the board is more likely not to find reasons to blame the CEO, and, consequently, it may choose to attribute poor performance to external factors to protect their reputation. The above discussion leads to the following hypothesis:

Hypothesis 1: Deviant resource reallocation actions positively moderate the relationship between poor firm performance and CEO dismissal.

The Moderating Effect of the Board's Industry Experience

The board's industry-specific experience is a valuable resource because it improves the ability of the board to monitor firm performance. Industry experience provides knowledge of the firm's context in terms of customers, suppliers, technology, regulations and competitive rules (Kor and Misangyi, 2008), which enhances its ability to create more accurate conceptualizations of the firm's external environment (Ericsson and Lehmann, 1996). For example, experience helps boards to better understand competitive dynamics, recognize more effectively industry contingencies and more accurately interpret competitor reactions to environmental changes (Johnson et al., 2013,

Oehmichen et al., 2017). In addition, the abovementioned board resources that associate with experience in the industry enhance the board's ability to contribute to firm strategy, and, therefore, boards with industry experience are more likely to advise CEOs on strategy (Hillman and Dalziel, 2003). Consequently, boards with more industry experience are more likely to be motivated to protect their reputation by attributing poor performance to external factors when they cannot convincingly support CEO wrong-doing, but when they can, to dismiss the CEO.

Due to their enhanced monitoring ability, boards with more industry experience should be more able to recognize more deviant resource reallocation actions and support CEO wrong-doing. First, these boards are more capable of recognizing patterns of resource reallocation in the industry and of establishing degrees of deviation from industry norms. Larger deviations may signal to the board that the CEO took excessive risk. Second, such boards may develop a stronger perception that deviant resource-reallocation indicates that the CEO misunderstood the external environment (Barr et al., 1992). Therefore, the board may be more inclined to conclude that it can make the case that the CEO is a liability for the firm because the CEO can influence other important decisions and actions of the firm (Kaplan, 2008).

In consequence, more experienced boards observing more deviant resource reallocation actions are more likely to attribute poor performance to the CEO and to dismiss the CEO because they are more motivated to disassociate themselves from the CEO and more able to support the case for doing so. In addition, more experienced boards are more able to recognize poor performance associated with less deviant resource reallocation actions and to develop the perception that CEO decisions are in fact compatible with expectations, and thus, find it more difficult to challenge the CEO. As a result, boards may attribute poor performance to external factors primarily to protect not the CEO but themselves. In contrast, boards with less industry

experience may find it more difficult to identify actions which can be attributed to the CEO, due to their shallow understanding of the firm's external environment. Therefore, the board is more likely to attribute poor performance to external factors. Thus, we expect that

Hypothesis 2: The moderating effect of deviant resource reallocation actions on the relationship between poor firm performance and CEO dismissal is more positive when the board possesses more industry experience.

The Moderating Effect of the Board's CEO Experience

Knowledge of a CEO's job can be directly assimilated only by people who have held a similar position, since the job is tacit and involves, *inter alia*, complex decisions with incomplete information and leadership skills to deal with corporate problems, such as pursuing resource reallocation (Khanna et al., 2014). Thus, boards with more CEO experience may have developed capabilities that help evaluate resource reallocation more efficiently because they understand the factors that influence strategic decisions, such as resource scarcity, organizational structure and culture, and ways of overcoming these constraints (Lorsch and Khurana, 1999). In addition, these boards are more capable of assessing the appropriateness of plans and actions to reallocate resources and the risks involved (Tian et al., 2011). Consequently, boards with higher CEO experience may be involved in advising the incumbent CEO on strategy and be more motivated to protect their reputation when the firm underperforms.

When poor performance is associated with more deviant resource reallocation, due to the superior monitoring ability of boards with more CEO experience, they may increasingly recognize that the decisions and actions pursued by the CEO and the risks taken were not appropriate. First, board directors may recognize easier grandiose resource re-allocation actions and conclude that the CEO did not formulate pragmatic solutions and did not mobilize resources in line with

expectations. Second, boards with more CEO experience may diagnose more effectively that the resource reallocations were not consistent with previous firm resource allocations. Consequently, they may conclude that they can support that the risks taken were excessive and inappropriate. In addition, boards with more CEO experience should be able to support the view that more deviant resource reallocation actions demonstrate that the CEO is unable to perform adequately. To the extent that these boards are more motivated to attribute poor performance to the CEO, they will take this opportunity and dismiss him/her.

Nevertheless, when poor performance is associated with less deviant resource reallocation, a more experienced board can increasingly recognize that poor performance cannot be reconciled with the modest risks taken by the CEO and may conclude that it cannot support dismissal of the CEO; hence, it attributes poor performance to external factors to protect its reputation. In contrast, a board with less CEO experience has less understanding of resource reallocation actions. In consequence, such a board may be less confident in supporting the case for CEO wrongdoing, which may lead the board to avoid dismissing the CEO. Thus, we expect that

Hypothesis 3: The moderating effect of deviant resource reallocation actions on the relationship between poor firm performance and CEO dismissal is more positive when the board possesses more CEO experience.

METHODS

Sample

The initial sample consisted of 23,661 firm-year observations included in Standard and Poor's ExecuComp database over the period 2000-2012. We excluded financial services firms (SIC 6000-6999) and utilities (SIC 4900-4999), because the financial characteristics in these industries differ from those in other industries (Liu, 2014). We also excluded multi-segment firms because the

reallocation of resources is more meaningful for single-segment firms. We identified CEO dismissals via reports from Factiva full-text news database. In addition, we gathered (i) financial information from Standard and Poor's Compustat Annual and Segment databases; (ii) institutional ownership from Thomson Reuters Institutional (13F) Holdings database; (iii) analyst coverage and earnings forecasts from Institutional Brokers' Estimate System (I/B/E/S); (iv) returns from The Center for Research in Security Prices (CRSP); (v) characteristics of the directors of the board from BoardEx database; and (vi) Hoberg and Philips Text-based Network Industry Classification (TNIC-3) from Hoberg-Phillips Data Library. Finally, since we model the hazard of dismissal given all available information at time $t-1$, we required the CEO to remain in position during the period $t-1$ to t . The final sample with complete information consisted of 4,223 firm-year observations. This sample represented 868 firms and 1,181 different CEOs.

Dependent Variable

CEO Dismissal. We initially identified CEO turnover associated with the date when CEOs left office, or, failing that, the first date of service of the successor, as reported in the ExecuComp database. Reasons for CEOs departure, however, are limited to retired/resigned/deceased; therefore, we searched the Factiva full-text news database to find when a turnover was first announced and the reason for a CEO's departure. We excluded CEO turnovers that resulted from takeovers, mergers, spinoffs and interim CEO appointments. Then, following Parrino (1997), we classified CEO turnover as dismissal if (i) it was reported in the news articles that the CEO was dismissed, forced from position, or had left due to policy differences or pressure; (ii) the departing CEO was under the age of 60 and the news article reported no reason for the departure, e.g. death, poor health, or acceptance of another position; and (iii) the CEO was younger than 60 and the news articles reported retiring as her/his reason for departure, but the retirement was not announced less

than six months at least before departure and the CEO did not take a comparable position elsewhere. Finally, following Ertugrul and Krishnan (2011), we relaxed the third condition if the CEO was the founder of the firm, in order not to misclassify retirement by young founders as forced exit from their firm. We captured a CEO dismissal with a binary variable (Dismissal) that equals 1 if the CEO experienced dismissal in any year and zero otherwise. All the information to estimate the CEO dismissal variable came from Factiva's full-text news database and ExecuComp.

Explanatory Variables

Firm performance. Our theoretical perspective assumed that the board attributes poor firm performance. To identify instances of poor performance, we used stock returns defined as the total shareholders' return at fiscal year-end, and firm profitability, defined as the ratio of earnings before interest and tax to the total assets of the firm. We then created a variable that equaled the absolute value of a firm's competitor-adjusted stock return when stock return was below the median competitors' return (PoorReturn) and a variable that equaled the absolute value of a firm's competitor-adjusted profitability when firm profitability was below the median competitors' profitability (PoorProfitability). To capture competitors we employed the TNIC (Hoberg and Phillips, 2010, 2016), in which each firm has its own distinct set of competitors that may vary over time. This classification scheme is better than traditional ones, because it is more able to explain differences in industry characteristics such as profitability, sales growth and market risk across industries. The greater the value of poor returns or poor profitability, the more the firm underperformed competitors. These definitions assume that performance matters only when it is in a subpar range (Fredrickson et al., 1988). Within the subpar range, these definitions also capture performance severity. Data for calculating returns were from the Compustat database.

Deviant resource reallocation. First, following Finkelstein and Hambrick (1990), we calculated a six dimensional measurement of firms' resource reallocation. The key strategic dimensions were the following: (i) advertising intensity (advertising/sales); (ii) research and development intensity (R&D/sales); (iii) plant and equipment newness (net P&E/gross P&E); (iv) non-production overheads (selling, general and administrative expenses/sales); (v) inventory levels (inventories/sales); and (vi) financial leverage (debt/equity). These dimensions capture distinct aspects of a firm's strategy and have important implications for firm performance. In addition, actions related to these dimensions are largely controllable by the CEO (Finkelstein and Hambrick, 1990). For each dimension, we computed the absolute change in firm level, from current to prior year. We then standardized (z-score), for each year, the absolute values within the sample. The average of the six standardized values was our composite measure which captures a firm's resource reallocation actions in a certain year.

To estimate a firms' deviant resource reallocation from its competitors, we used a predictive model that allowed us to express resource reallocation as a function of its antecedents. Specifically, we estimated the following annual cross-sectional regression model using each focal firm's competitors:

$$Resource\ Reallocation_t = \beta_0 + \beta_1 Size_{t-1} + \beta_2 Age_{t-1} + \beta_3 Cash_{t-1} + \beta_4 ROA_{t-1} + \beta_5 Market\ to\ Book_{t-1} + \beta_6 Resource\ Reallocation_{t-1} + \varepsilon \quad (1)$$

The objective of the model was to decompose a firm's resource reallocation into a predicted component, conditional on antecedents, and an unexpected component. Antecedents of resource reallocation were based on the organizational and environmental contexts of a firm. Concerning a firm's organizational context, we included firm size ($Size_{t-1}$) and age (Age_{t-1}), defined as the natural logarithms of total assets at fiscal year-end and the number of years that the firm had been

listed, respectively. In addition, resource endowments may also affect resource reallocation amid environmental shifts. Therefore, we included organizational slack ($Cash_{t-1}$), defined as the total cash and short-term investments over total assets. Moreover, previous literature shows that profitability, which captures the viability of a firm's strategy, influences resource reallocation (Zajac and Kraatz, 1993). We measured profitability using return on assets (ROA_{t-1}), defined as the ratio of earnings before interest and tax to total assets. In addition, we included a variable denoting the firm's growth opportunities ($Market\ to\ Book_{t-1}$), defined as the ratio of the market value of assets to the book value of assets. Finally, we included prior resource reallocation ($Resource\ Reallocation_{t-1}$) since firms that pursued significant resource reallocation in the near past were expected to pursue less reallocation.

A firm's environmental context influences resource reallocation in an indirect way (Rajagopalan and Spreitzer, 1997), for instance, through a deliberate analysis of strategic alternatives (Ansoff, 1965) which considers a firm's organizational context. Therefore, the relationships between a firm's organizational context and resource reallocation are not stable; instead they vary across different environmental conditions. While the impact of environmental context on resource reallocation is hardly questionable, modelling this impact is quite challenging (Sharfman and Dean, 1991). Broadly speaking, prior literature focused on panel data to capture environmental conditions, using, for example, munificence, uncertainty and specific environmental events such as deregulation (e.g. (Wiersema and Bantel, 1993, Zajac and Kraatz, 1993)). However, there may be multiple dimensions of these constructs that complicate their operationalization (Rajagopalan and Spreitzer, 1997). In addition, other environmental contingencies may also affect resource reallocation. To address these issues and to control for the indirect impact of the environmental context on resource reallocation we estimated the model for

each individual firm on a yearly basis, using each firm's competitors. Estimating the model on a yearly basis controls for the instability among coefficient estimates (i.e. the coefficient of variables that capture a firm's organizational context vary across time), which may arise due to changes in the environmental context. In addition, estimating the model using a focal firm's competitors allows the coefficient estimates to embody characteristics of the response of an average competitor firm to the environmental context in a given year.

Using this approach, we estimated the regression model. To reduce estimation noise, we used firms with at least 20 competitors. We then employed the coefficient estimates of the model for a focal firm and evaluated them, using the corresponding information about a focal firm's organizational context to estimate the predicted resource reallocation and the unexpected component. The predicted resource reallocation represents a hypothetical firm that exhibits identical characteristics to those of the focal firm and behaves consistently with the average competitor. The unexpected component is the difference between the observed resource reallocation and the hypothetical firm's resource reallocation. Among others, the difference likely captures personal characteristics, which prior literature show that they affect resource reallocation (Andreou et al., 2017). We then defined the deviant resource reallocation (DeviantResourceReallocation) as the absolute value of the unexpected component. Based on this conceptualization, more deviant resource reallocation captures patterns that deviate not only from past allocation, but also deviate from the resource reallocation of the hypothetical firm. Extreme resource reallocation is defined as one standard deviation above the mean.

Generally, the model performed quite well: the average coefficient estimates across all firms and years exhibited the expected sign and the average overall R^2 across all estimations was 0.55. All the information for estimating deviant resource reallocation was from Compustat.

Moderator Variables

We measured board industry experience (*BoardIndustryExperience*) as the ratio of the aggregate number of years when independent directors had current or past work experience in the same industry as the focal firm, divided by the number of independent directors. Similarly, board CEO experience (*BoardCEOExperience*) was the ratio of the aggregate number of years when independent directors had current or past work experience as CEO, divided by the number of independent directors. The length of an independent director's experience can be associated with knowledge and understanding of issues relating to a firm's business or an individual's position (Harris and Helfat, 1997, Johnson et al., 2013, Mannor et al., 2019), thus, our definitions capture the understanding of independent directors of the firm's industry, or the CEO position. All information about board members came from BoardEx.

Control Variables

First, we controlled for firm characteristics such as size (Boeker, 1992); ownership structure (Parrino et al., 2003); the number of analysts following the firm; the accuracy of their forecasts (Wiersema and Zhang, 2011); and performance risk (Bushman et al., 2010). Second, we controlled for the firm's corporate governance quality using board characteristics such as board size (Park et al., 2014) and board independence (Fisman et al., 2014). Third, we included CEO characteristics that correlate with power because greater power may reduce the risk of dismissal. These characteristics comprised of CEO shareholding; CEO duality (Park et al., 2014, Wiersema and Zhang, 2011); and cash compensation (Shen et al., 2010). Fourth, we included controls for product market competitors' characteristics, since Jenter and Kanaan (2015) show that CEOs may be dismissed for factors beyond their control. These controls included competitors' median ROA and stock return (Eisfeldt and Kuhnen, 2013). Finally, we included year fixed effects to control for

unobserved year characteristics. All the variables are defined in Table 1 and were lagged by one year to minimize the effect of reverse causality (Kenny, 1979).

Estimation Method

To investigate our hypotheses we employed a Cox (1972) semiparametric proportional hazard model with robust standard errors. This method relates the probability of CEO dismissal at time t , given that the CEO has survived up so far, with a set of explanatory variables. According to Shumway (2001), the hazard model exhibits many advantages over the logistic regressions commonly used by prior literature; the hazard model explicitly controls for each CEO's period at risk, it incorporates time-varying covariates and it also provides more precise parameter estimates, resulting in more efficient out-of-sample forecasts. We estimated the full model as follows:

$$\begin{aligned}
 h(t) = h_0(t) \exp [& \alpha \text{PoorReturn}_{t-1} \times \mathbf{X} + \beta \text{DeviantResourceReallocation}_{t-1} \times \mathbf{X} \\
 & + \gamma \text{PoorReturn}_{t-1} \times \text{DeviantResourceReallocation}_{t-1} \times \mathbf{X} \\
 & + \delta_1 \text{BoardIndustryExperience}_{t-1} + \delta_2 \text{BoardCEOExperience}_{t-1} \\
 & + \zeta \text{Controls}_{t-1} + \theta \text{Year Fixed Effects}]
 \end{aligned}$$

where $\mathbf{X} = 1 + \text{BoardIndustryExperience}_{t-1} + \text{BoardCEOExperience}_{t-1}$; $h_0(t)$ is the baseline hazard function that requires no pre-specification and can take any functional form (Shumway, 2001). We used CEO tenure, defined as the number of years in office, as the duration measure, and the CEO dismissal variable as the failure event, thus the dependent variable indicates the dismissal risk. Consequently, a positive (negative) coefficient estimate suggests a positive marginal impact on the hazard and therefore, an increase (decrease) in the probability of CEO dismissal since a shorter (longer) time as CEO is expected.

Empirically, the Cox proportional hazard model assumes proportionality, which means that the ratio of the hazard functions for two observations with different values should not covary with time. We tested the proportionality assumption for each explanatory variable, using re-estimation

tests (Cleves et al., 2010) and we found that the assumption was violated for CEO Shareholding and Analyst Accuracy variables. Accordingly, we changed the specification to allow the effects of these variables to be time dependent.

RESULTS

Table 2 displays the descriptive statistics and pairwise correlations of our variables. Most variables correlate with CEO dismissal and exhibit the expected sign.

Insert Table 2 about here

Table 3 shows the results. To simplify the interpretation of the coefficient estimates and to reduce multicollinearity in the interaction terms, we standardized all continuous variables. In addition, because variance inflation factors (VIFs) are not meaningful for non-linear regression models, we used a linear regression model to estimate VIFs (Menard, 2008). The highest VIF was 3.88, which is well below 10 (Menard, 2008). Thus, multicollinearity was not a problem. Finally, we used the robust variance estimator developed by Lin and Wei (1989) to account for possible within-firm dependence.

Model 1 considers the effect of the control variables on the hazard of CEO dismissal. Model 2 includes deviant resource reallocation and its interaction term with poor returns. Hypothesis 1 predicted that more deviant resource reallocation positively moderates the relationship between poor return and CEO dismissal. The results show that the interaction term of poor return with deviant resource reallocation is positively related to the hazard of CEO dismissal ($p=0.003$). To confirm this result, in Figure 1a we plotted the change in the probability of dismissal at a certain time as a function of poor return at different levels of deviant resource reallocation. While the hazard of CEO dismissal increases with poor performance, the positive relationship between poor

performance and CEO dismissal is attenuated when deviant resource reallocation is extreme (one standard deviation above the mean). Overall, these findings supported Hypothesis 1.

Model 3 includes a three-way interaction between deviant resource reallocation, poor returns and board industry experience. Hypothesis 2 predicted that the moderating effect of deviant resource reallocation on the relationship between poor firm performance and CEO dismissal was more positive when the board possessed more industry experience. The results show that the three-way interaction term of deviant resource reallocation, poor return and board industry experience is positively related to the hazard of CEO dismissal ($p=0.008$). Figure 1b displays the change in the probability of dismissal at a certain time as a function of poor return at different levels of deviant resource reallocation and board industry experience. When board industry experience is high (one standard deviation above the mean), deviant resource reallocation intensifies the positive relationship between poor return and the hazard of CEO dismissal. A similar deviant resource reallocation effect exists when board industry experience is low (one standard deviation below the mean), but to a lesser extent. Thus, Hypothesis 2 is supported.

Model 4 includes a three-way interaction between deviant resource reallocation, poor returns and a board's CEO experience. Hypothesis 3 predicted that the moderating effect of deviant resource reallocation on the relationship between poor firm performance and CEO dismissal was more positive when the board possessed more CEO experience. The results show that the three-way interaction term of deviant resource reallocation, poor return and board CEO experience is positively related to the hazard of CEO dismissal ($p=0.007$). Figure 1c shows the change in the probability of dismissal at a certain time as a function of poor return at different levels of deviant resource reallocation and board CEO experience. When board CEO experience is high (one standard deviation above the mean), deviant resource reallocation intensifies the positive

relationship between poor return and the hazard of CEO dismissal. In contrast, when board CEO experience is low (one standard deviation below the mean), the positive effect of deviant resource reallocation diminishes, providing support to Hypothesis 3.

Finally, Model 5 presents the results of the full model. The results continue to support all hypotheses and suggest that poor return matters mostly when deviant resource reallocation is extreme and the board has high industry and CEO experience.

 Insert Table 3 and Figure 1 about here

Additional Analysis

Alternative Explanations. A disadvantage of the Cox proportional hazard model is that it does not allow controlling for unobserved firm fixed effects. This could be problematic when unobserved firm characteristics generate results consistent with our hypotheses. To rule out this possibility we rely on within-firm variation in CEO dismissals using a conditional logistic regression. The advantage of this method is that it compares the relationships between poor return, deviant resource reallocation and board's industry/CEO experiences and the probability of CEO dismissal, with CEO's predecessors and successors (i.e. it considers only within-firm variation). The disadvantage, however, is that to estimate conditional logistic regression, we must focus only on the subset of firms that exhibited at least 1 CEO dismissal, which may induce sample selection bias. Table 4 presents the results. The results continue to support the hypotheses.

 Insert Table 4 about here

Another explanation of our findings could be possible endogeneity between deviant resource reallocation and factors that may also affect the hazard of dismissal. For instance, more

deviant resource reallocation could relate to a firm's profitability, which also affects the probability of CEO dismissals (Zhang, 2006). Accordingly, to examine whether our findings were driven by this kind of endogeneity, we re-ran the predictive model after controlling not only for contemporaneous firm profitability, but also for lag 1 and lag 2 firm profitability. We then used the unexpected component of resource reallocation that was uncorrelated with contemporaneous and past firm profitability and we re-estimated the deviant resource reallocation. Using this deviant resource reallocation, we re-ran the main analysis. Untabulated results show that our findings remain qualitatively similar. Therefore, there is no evidence that this type of endogeneity affects our results.

Alternative Performance Specifications. The main results utilize poor returns rather than poor profitability because returns are likely to capture more accurately contemporaneous and future performance expectations resulting from resource reallocation. Nevertheless, our findings are qualitatively similar when using profitability as an alternative measure of poor performance. Additionally, the results remain qualitatively similar if we use a linear continuous measure of competitors adjusted return (Chen and Hambrick, 2012) or even if, instead of the median competitors' return, we use as an alternative benchmark the bottom quartile of competitors' return (Wowak et al., 2011). Finally, the results are robust to using a restricted sample of poor performing firms relative to the median competitor performance and a continuous measure of stock returns.

DISCUSSION AND CONCLUSION

The findings show that extreme resource reallocation, which is transparent and of critical importance to the firm, may allow the board to blame the CEO for poor firm performance. Extreme resource reallocation actions are beyond industry consensus and previous firm practice, and

therefore, boards can support the charge that the CEO is out of context. Researchers have not considered the influence of resource reallocation on the decision to dismiss the CEO, even though attribution theory regards such actions as pivotal in attributing firm performance to the CEO. Moreover, the findings show that board industry and CEO experience increase the probability of dismissing the CEO when resource reallocation actions are extreme, which shows that, with them, the board is more able to recognize and support CEO wrong-doing. This finding may indicate that the ability of the board, if it is founded on board industry and CEO experience may facilitate the board's understanding of the firm's environment and judgment of the appropriateness of CEO decisions and actions in light of meeting industry consensus and being consistent with previous firm resource allocations. Therefore, when poor performance is associated with extreme resource reallocation, this understanding helps the board blame the CEO for poor performance (Johnson et al., 2013). However, when the CEO's resource reallocation actions are more in line with those of his counterparts and previous firm allocations, board industry and CEO experiences reduce the influence of poor performance and CEO dismissal. This may suggest that boards are less willing to dismiss the CEO because they are more involved in advising the CEO on strategy. Therefore, more experienced boards may find it more difficult to dismiss a poorly performing CEO when the CEO acts consistently and in line with industry consensus.

Previous studies have stipulated the positive influence of board human capital on both the monitoring and the advisory role of the board. Human capital improves the ability of the board to identify and interpret information that is useful in identifying performance issues (Khanna et al., 2014). In addition, human capital helps the board to offer expert advice to the CEO about strategy, which has a positive effect on firm performance (Dalziel et al., 2011). This study considers *jointly* the two functions of the board and discusses a dark side of human capital on the board's decision

to dismiss the CEO. In addition, studies have mostly examined structures that support the board's monitoring function (Dalton et al., 1998, Westphal, 1999) and paid less attention to the board's ability to make sense of CEO actions (Khanna et al., 2014, Tian et al., 2011). Our finding supports the idea that varying board experiences of domains relevant to a poor performance attribution influence the decision to dismiss the CEO.

Moreover, the findings suggest that CEOs who take excessive risk through deviant resource reallocation actions and underperform are more likely to get dismissed. We argue that this emanates from corporate governance practices that encourage active advising of the CEO by the board. Consequently, such practices may motivate CEOs to avoid deviant resource reallocations to protect themselves, promoting this way conservatism among CEOs. In addition, our findings suggest that the dual role of the board results in biased monitoring. For example, findings show that more experienced boards which are more likely to engage in advising the CEO, are less likely to dismiss the CEO when the firm exhibits poor performance. Consequently, CEOs may take advantage of this situation by seeking more advice from the board in important decisions. In so doing, they protect themselves in case of adverse outcomes. Studies acknowledge the dark side of the dual role of the board (Garg, 2013, Tsui-Auch and Yoshikawa, 2015). For example, in a study of Singapore banks governance Tsui-Auch and Yoshikawa (2015) documented that bank management responded to institutional efforts to introduce independent board directors by recruiting independent directors who could contribute more to the bank strategy and less to monitoring in order to serve their own interests.

The study contributes to the literature on CEO dismissal by exploring board agency problems that emanate from the board's responsibilities. Even though studies have acknowledged that occasionally board interests diverge from shareholder interests, the inherent conflict that

emerges during firm underperformance as a result of the advisory role of the board has not been examined in the context of the CEO dismissal. This theoretical perspective in juxtaposition with attribution theory identifies the significant effect of the observed CEO actions on the decision to dismiss the CEO. Moreover, it points towards a dark side of the board's human capital since it is likely to contribute to the board's entrenchment. In contrast, the literature emphasizes the board's independence by studying board structure and board incentives (Daily et al., 2003). In the context of CEO dismissal, studies examine the contingent role of proxies for governance such as the board size, and board ownership, assuming that when the firm underperforms good governance increase the likelihood of CEO dismissal (Shen and Cho, 2005). In addition, by positing that when the firm underperforms the advisory role of the board compromises independence and reduces the influence of poor firm performance on CEO dismissal when resource reallocation actions are not seen to be out of context, this study adds to the agency theory perspective on CEO dismissal which so far has been preoccupied by board structure and incentives. Moreover, the findings contribute to the corporate governance literature, which mostly considers board advice as a contribution to firm performance.

In addition, the findings have practical implications for corporate governance. Specifically, the finding that the board's industry and CEO experience have a contingent effect on the decision to dismiss the CEO may suggest that the composition of the board in terms of experience may determine the board's ability to understand the firm's environment and CEO decisions and actions and determine if these are consistent with industry consensus. The findings may have overarching implications for the criteria used to select board directors (Tian et al., 2011). In this regard, shareholders may have a complex task in choosing independent directors with appropriate past experiences that optimize across a spectrum of the monitoring and advisory duties

of the board. Considering only the percentage of external directors or the size of the board may not be adequate for the job of protecting shareholders' interests (Khanna et al., 2014). In addition, the findings may have implications for the way in which the advisory role of the board is contacted, given that, this biases the monitoring function of the board. Provided that CEOs may actively seek advice from the board as a way of protecting themselves from dismissal, shareholders may demand that the contribution of the board to strategic decisions should become more explicit and more transparent.

In addition, we alert boards to the finding that, when performance is poor, CEOs who pursue deviant resource reallocation are more likely to be dismissed than CEOs who follow the peer group trend, which may partially explain the conservatism of CEOs regarding strategic change. Considering the increasing dynamism of the business environment, and the need to raise the competencies of the organization in managing change, boards should encourage CEOs where appropriate to pursue deviant resource reallocation.

This study has few limitations, but these correspondingly suggest avenues for future research. First, the study relies on archival and cross-sectional data; in addition, it may not directly measure some of the theoretical concepts and assumptions advanced in the study. For example, we assume that boards have an incentive not to attribute poor performance to the CEO if they cannot show CEO wrong-doing. Although agency theory points to such behavior, we are unable to observe this as a motive. These limitations may suggest that survey questionnaires and interviews with board members could yield more direct measures relating to attributions (Haleblian and Rajagopalan, 2006). Nevertheless, surveys may be prone to sampling and measurement biases. Second, the definition of allocation of resources based on Finkelstein and Hambrick (1990), better captures CEO business-level choices; thus, to avoid measurement problems it is necessary to limit

the sample to firms that operate within a single segment industry. Consequently, findings should be generalized with care.

A key insight from this study, that the board's advisory role can create agency problems in the monitoring of the CEO, should be extended to other settings of the board-CEO relationship. For example, the acquisition experience of the board has been deemed helpful for M&A performance (McDonald et al., 2008); however, could it be that board entrenchment influences this outcome? In addition, if the CEO is less likely to be blamed for poor performance, what are the implications for CEO remuneration? In addition, given that monitoring is statutory, what is the optimal level of board advising, and what incentives could motivate boards to brush aside their concern for their own reputation and vigilantly exercise their monitoring duties? Finally, given that board capital contributes to both board roles, and potentially aggravates board agency problems, the dark side of human capital should be investigated in a broader set of corporate governance decisions.

REFERENCES

- Andreou, P. C., I. Karasamani, C. Louca and D. Ehrlich (2017). 'The impact of managerial ability on crisis-period corporate investment', *Journal of Business Research*, **79**, pp. 107-122.
- Andrews, K. R. (1971). *The concept of corporate strategy*, Dow Jones-Irwin, Homewood, Ill.
- Ansoff, H. I. (1965). *Corporate strategy: An analytic approach to business policy for growth and expansion*, McGraw-Hill, New York, NY.
- Arena, C., G. Michelon and G. Trojanowski (2018). 'Big Egos Can Be Green: A Study of CEO Hubris and Environmental Innovation', *British Journal of Management*, **29**, pp. 316-336.
- Barr, P. S., J. L. Stimpert and A. S. Huff (1992). 'Cognitive change, strategic action, and organizational renewal', *Strategic Management Journal*, **13**, pp. 15-36.
- Bettman, J. R. and B. A. Weitz (1983). 'Attributions in the board room: Causal reasoning in corporate annual reports', *Administrative Science Quarterly*, **28**, pp. 165-183.
- Boeker, W. (1992). 'Power and managerial dismissal: Scapegoating at the top', *Administrative Science Quarterly*, **37**, pp. 400-421.
- Bower, J. L. (1970). *Managing the resource allocation process: A study of corporate planning and investment*, Division of Research, Graduate School of Business Administration, Harvard University, Boston.
- Bushee, B. J. and C. F. Noe (2000). 'Corporate disclosure practices, institutional investors, and stock return volatility', *Journal of Accounting Research*, **38**, pp. 171-202.
- Bushman, R., Z. Dai and X. Wang (2010). 'Risk and CEO turnover', *Journal of Financial Economics*, **96**, pp. 381-398.
- Cannella, A. A. and W. Shen (2001). 'So Close and Yet So Far: Promotion Versus Exit for CEO Heirs Apparent', *Academy of Management Journal*, **44**, pp. 252-270.
- Carpenter, M. A. (2000). 'The price of change: The role of CEO compensation in strategic variation and deviation from industry strategy norms', *Journal of Management*, **26**, pp. 1179-1198.
- Carpenter, M. A. and J. D. Westphal (2001). 'The Strategic Context of External Network Ties: Examining the Impact of Director Appointments on Board Involvement in Strategic Decision Making', *Academy of Management Journal*, **44**, pp. 639-660.
- Chen, G. and D. C. Hambrick (2012). 'CEO replacement in turnaround situations: Executive (mis)fit and its performance implications', *Organization Science*, **23**, pp. 225-243.
- Child, J. (1972). 'Organizational structure, environment and performance: The role of strategic choice', *Sociology*, **6**, pp. 1-22.

- Cleves, M., W. Gould, R. G. Gutierrez and Y. Marchenko (2010). *An Introduction to survival analysis using Stata*, StataCorp LP.
- Cox, D. R. (1972). 'Regression models and life-tables', *Journal of the Royal Statistical Society*, **34**, pp. 187-220.
- Daily, C. M. and D. R. Dalton (1993). 'Board of Directors Leadership and Structure: Control and Performance Implications', *Entrepreneurship Theory and Practice*, **17**, pp. 65-81.
- Daily, C. M., D. R. Dalton and A. A. Cannella (2003). 'Corporate Governance: Decades of Dialogue and Data', *Academy of Management Review*, **28**, pp. 371-382.
- Dalton, D. R., C. M. Daily, A. E. Ellstrand and J. L. Johnson (1998). 'Meta-analytic reviews of board composition, leadership structure, and financial performance', *Strategic Management Journal*, **19**, pp. 269-290.
- Dalziel, T., R. J. Gentry and M. Bowerman (2011). 'An Integrated Agency–Resource Dependence View of the Influence of Directors' Human and Relational Capital on Firms' R&D Spending', *Journal of Management Studies*, **48**, pp. 1217-1242.
- Dasgupta, S., X. Li and A. Y. Wang (2017). 'Product Market Competition Shocks, Firm Performance, and Forced CEO Turnover', *The Review of Financial Studies*, **31**, pp. 4187-4231.
- Datta, D. K., N. Rajagopalan and Y. Zhang (2003). 'New CEO Openness to Change and Strategic Persistence: The Moderating Role of Industry Characteristics', *British Journal of Management*, **14**, pp. 101-114.
- Davis, J. H., F. D. Schoorman and L. Donaldson (1997). 'Toward a Stewardship Theory of Management', *Academy of Management Review*, **22**, pp. 20-47.
- Eisfeldt, A. L. and C. M. Kuhnen (2013). 'CEO turnover in a competitive assignment framework', *Journal of Financial Economics*, **109**, pp. 351-372.
- Ericsson, K. A. and A. C. Lehmann (1996). 'Expert and exceptional performance: Evidence and maximal adaptation to task constraints', *Annual Review of Psychology*, **47**, pp. 273-305.
- Ertugrul, M. and K. Krishnan (2011). 'Can CEO dismissals be proactive?', *Journal of Corporate Finance*, **17**, pp. 134-151.
- Fama, E. F. and M. C. Jensen (1983). 'Agency problems and residual claims', *The Journal of Law & Economics*, **26**, pp. 327-349.
- Finkelstein, S. and D. C. Hambrick (1990). 'Top-management-team tenure and organizational outcomes: The moderating role of managerial discretion', *Administrative Science Quarterly*, **35**, pp. 484-503.

- Fisman, R. J., R. Khurana, M. Rhodes-Kropf and S. Yim (2014). 'Governance and CEO turnover: Do something or do the right thing?', *Management Science*, **60**, pp. 319-337.
- Flickinger, M., M. Wrage, A. Tuschke and R. Bresser (2016). 'How CEOs protect themselves against dismissal: A social status perspective', *Strategic Management Journal*, **37**, pp. 1107-1117.
- Flynn, F. J. and B. M. Staw (2004). 'Lend me your wallets: The effect of charismatic leadership on external support for an organization', *Strategic Management Journal*, **25**, pp. 309-330.
- Fredrickson, J. W., D. C. Hambrick and S. Baumrin (1988). 'A model of CEO dismissal', *The Academy of Management Review*, **13**, pp. 255-270.
- Gamson, W. and N. Scotch (1964). 'American Journal of Sociology', *Scapegoating in baseball*, **70**, pp. 69-76.
- Garg, S. (2013). 'Venture Boards: Distinctive Monitoring and Implications for Firm Performance', *Academy of Management Review*, **38**, pp. 90-108.
- Garg, S. and K. M. Eisenhardt (2017). 'Unpacking the CEO–Board Relationship: How Strategy Making Happens in Entrepreneurial Firms', *Academy of Management Journal*, **60**, pp. 1828-1858.
- Gomulya, D. and W. Boeker (2016). 'Reassessing board member allegiance: CEO replacement following financial misconduct', *Strategic Management Journal*, **37**, pp. 1898-1918.
- Graffin, S. D., M. A. Carpenter and S. Boivie (2011). 'What's all that (strategic) noise? anticipatory impression management in CEO succession', *Strategic Management Journal*, **32**, pp. 748-770.
- Guest, P. M. (2019). 'Does Board Ethnic Diversity Impact Board Monitoring Outcomes?', *British Journal of Management*, **30**, pp. 53-74.
- Haleblian, J. and N. Rajagopalan (2006). 'A cognitive model of CEO dismissal: Understanding the influence of board perceptions, attributions and efficacy beliefs', *Journal of Management Studies*, **43**, pp. 1009-1026.
- Harris, D. and C. Helfat (1997). 'Specificity of CEO human capital and compensation', *Strategic Management Journal*, **18**, pp. 895-920.
- Harrison, J. R., D. L. Torres and S. Kukalis (1988). 'The changing of the guard: Turnover and structural change in the top-management positions', *Administrative Science Quarterly*, **33**, pp. 211-232.
- Haynes, K. T. and A. Hillman (2010). 'The effect of board capital and CEO power on strategic change', *Strategic Management Journal*, **31**, pp. 1145-1163.
- Heider, F. (1958). *The psychology of interpersonal relations*, Psychology Press, New Jersey.

- Helfat, C. E. and M. A. Peteraf (2015). 'Managerial cognitive capabilities and the microfoundations of dynamic capabilities', *Strategic Management Journal*, **36**, pp. 831-850.
- Hillman, A. J. and T. Dalziel (2003). 'Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives', *Academy of Management Review*, **28**, pp. 383-396.
- Hoberg, G. and G. Phillips (2010). 'Product market synergies and competition in mergers and acquisitions: A text-based analysis', *Review of Financial Studies*, **23**, pp. 3773-3811.
- Hoberg, G. and G. Phillips (2016). 'Text-based network industries and endogenous product differentiation', *Journal of Political Economy*, **124**, pp. 1423-1465.
- Holmstrom, B. (1982). 'Moral hazard in teams', *The Bell Journal of Economics*, **13**, pp. 324-340.
- Holmström, B. (1999). 'Managerial Incentive Problems: A Dynamic Perspective', *The Review of Economic Studies*, **66**, pp. 169-182.
- Huson, M. R., R. Parrino and L. T. Starks (2001). 'Internal monitoring mechanisms and CEO turnover: A long-term perspective', *The Journal of Finance*, **56**, pp. 2265-2297.
- Jensen, M. C. and W. H. Meckling (1976). 'Theory of the firm: Managerial behavior, agency costs and ownership structure', *Journal of Financial Economics*, **3**, pp. 305-360.
- Jenter, D. and F. Kanaan (2015). 'CEO turnover and relative performance evaluation', *The Journal of Finance*, **70**, pp. 2155-2184.
- Johnson, S. G., K. Schnatterly and A. D. Hill (2013). 'Board composition beyond independence: Social capital, human capital, and demographics', *Journal of Management*, **39**, pp. 232-262.
- Kaplan, S. (2008). 'Framing contests: Strategy making under uncertainty', *Organization Science*, **19**, pp. 729-752.
- Kelley, H. H. (1967). 'Attribution theory in social psychology', *Nebraska Symposium on Motivation*, **15**, pp. 192-238.
- Kelley, H. H. (1973). 'The processes of causal attribution', *American Psychologist*, **28**, pp. 107-128.
- Kenny, D. A. (1979). *Correlation and causality*, Wiley, New York.
- Khanna, P., C. D. Jones and S. Boivie (2014). 'Director human capital, information processing demands, and board effectiveness', *Journal of Management*, **40**, pp. 557-585.
- Kor, Y. Y. and V. F. Misangyi (2008). 'Outside directors' industry-specific experience and firms' liability of newness', *Strategic Management Journal*, **29**, pp. 1345-1355.

- Krause, R., M. Semadeni and A. A. Cannella (2013). 'External COO/presidents as expert directors: A new look at the service role of boards', *Strategic Management Journal*, **34**, pp. 1628-1641.
- Lin, D. Y. and L. J. Wei (1989). 'The robust inference for the Cox proportional hazards model', *Journal of the American Statistical Association*, **84**, pp. 1074-1078.
- Liu, Y. (2014). 'Outside options and CEO turnover: The network effect', *Journal of Corporate Finance*, **28**, pp. 201-217.
- Lorsch, J. W. and R. Khurana (1999). 'Changing leaders : The board's role in CEO succession', *Harvard Business Review*, **77**, pp. 96-105.
- Luthans, F. and A. H. Church (2002). 'Positive organizational behavior: Developing and managing psychological strengths', *Academy of Management Executive*, **16**, pp. 57-72.
- Mannor, M. J., F. K. Matta, E. S. Block, A. L. Steinbach and J. H. Davis (2019). 'A Liability of Breadth? The Conflicting Influences of Experiential Breadth on Perceptions of Founding Teams', *Journal of Management*, **45**, pp. 1540-1568.
- McDonald, M. L., J. D. Westphal and M. E. Graebner (2008). 'What do they know? The effects of outside director acquisition experience on firm acquisition performance', *Strategic Management Journal*, **29**, pp. 1155-1177.
- Menard, S. (2008). *Applied logistic regression analysis*, Sage, Thousand Oaks, Calif. [u.a.].
- Oehmichen, J., S. Schripp and M. Wolff (2017). 'Who needs experts most? Board industry expertise and strategic change—a contingency perspective', *Strategic Management Journal*, **38**, pp. 645-656.
- Papadakis, V. M. and P. Barwise (2002). 'How Much do CEOs and Top Managers Matter in Strategic Decision-Making?', *British Journal of Management*, **13**, pp. 83-95.
- Park, J.-H., C. Kim and Y.-D. Sung (2014). 'Whom to dismiss? CEO celebrity and management dismissal', *Journal of Business Research*, **67**, pp. 2346-2355.
- Park, K. M. (2007). 'Antecedents of convergence and divergence in strategic positioning: The effects of performance and aspiration on the direction of strategic change', *Organization Science*, **18**, pp. 386-402.
- Parrino, R. (1997). 'CEO turnover and outside succession: A cross-sectional analysis', *Journal of Financial Economics*, **46**, pp. 165-197.
- Parrino, R., R. W. Sias and L. T. Starks (2003). 'Voting with their feet: Institutional ownership changes around forced CEO turnover', *Journal of Financial Economics*, **68**, pp. 3-46.
- Pfeffer, J. and G. R. Salancik (1978). *The external control of organizations : a resource dependence perspective*, Stanford Business Books, Stanford, Calif.

- Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing Industries and competitors*, Free Press, New York.
- Quigley, T. J. and D. C. Hambrick (2012). 'When the former ceo stays on as board chair: effects on successor discretion, strategic change, and performance', *Strategic Management Journal*, **33**, pp. 834-859.
- Rajagopalan, N. and G. M. Spreitzer (1997). 'Toward a theory of strategic change: A multi-lens perspective and integrative framework', *Academy of Management Review*, **22**, pp. 48-79.
- Sharfman, M. P. and J. W. J. Dean (1991). 'Conceptualizing and measuring the organizational environment: A multidimensional approach', *Journal of Management*, **17**, pp. 681-700.
- Shen, W. and T. S. Cho (2005). 'Exploring Involuntary Executive Turnover Through A Managerial Discretion Framework', *Academy of Management Review*, **30**, pp. 843-854.
- Shen, W., R. J. Gentry and H. L. Tosi Jr (2010). 'The impact of pay on CEO turnover: A test of two perspectives', *Journal of Business Research*, **63**, pp. 729-734.
- Shepherd, D. A. and J. M. Haynie (2011). 'Venture failure, stigma, and impression management: A self-verification, self-determination view', *Strategic Entrepreneurship Journal*, **5**, pp. 178-197.
- Shumway, T. (2001). 'Forecasting bankruptcy more accurately: A simple hazard model', *The Journal of Business*, **74**, pp. 101-124.
- Sutton, R. I. and A. L. Callahan (1987). 'The Stigma of Bankruptcy: Spoiled Organizational Image and Its Management', *Academy of Management Journal*, **30**, pp. 405-436.
- Tian, J., J. Haleblian and N. Rajagopalan (2011). 'The effects of board human and social capital on investor reactions to new CEO selection', *Strategic Management Journal*, **32**, pp. 731-747.
- Tomlinson, E. C. and R. C. Mayer (2009). 'The role of causal attribution dimensions in trust repair', *Academy of Management Review*, **34**, pp. 85-104.
- Tsui-Auch, L. S. and T. Yoshikawa (2015). 'Institutional change versus resilience: A study of incorporation of independent directors in Singapore banks', *Asian Business & Management*, **14**, pp. 91-115.
- Tushman, M. L. and L. Rosenkopf (1996). 'Executive succession, strategic reorientation and performance growth: A Longitudinal Study in the U.S. cement industry', *Management Science*, **42**, pp. 939-953.
- Villanova, P. and H. J. Bernardin (1989). Impression management in the context of performance appraisal. In: R. A. Giacalone and P. Rosenfeld (eds.), *Impression management in the organization*. pp. 299-313. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

- Ward, A., K. Bishop and J. A. Sonnenfeld (1999). 'Pyrrhic victories: the cost to the board of ousting the CEO', *Journal of Organizational Behavior*, **20**, pp. 767-781.
- Warner, J. B., R. L. Watts and K. H. Wruck (1988). 'Stock prices and top management changes', *Journal of Financial Economics*, **20**, pp. 461-492.
- Weber, L. and M. Wiersema (2017). 'Dismissing a Tarnished CEO? Psychological Mechanisms and Unconscious Biases in the Board's Evaluation', *California Management Review*, **59**, pp. 22-41.
- Weiner, B. (1983). 'Some methodological pitfalls in attributional research', *Journal of Educational Psychology*, **75**, pp. 530-543.
- Weiner, B. (1985). 'An attributional theory of achievement motivation and emotion', *Psychological Review*, **92**, pp. 548-573.
- Westphal, J. D. (1999). 'Collaboration in the boardroom: Behavioral and performance consequences of CEO-board social ties', *Academy of Management Journal*, **42**, pp. 7-24.
- Westphal, J. D. and J. W. Fredrickson (2001). 'Who directs strategic change? Director experience, the selection of new CEOs, and change in corporate strategy', *Strategic Management Journal*, **22**, pp. 1113-1137.
- Westphal, J. D. and M. E. Graebner (2010). 'A Matter of Appearances: How Corporate Leaders Manage the Impressions of Financial Analysts about the Conduct of Their Boards', *Academy of Management Journal*, **53**, pp. 15-44.
- Westphal, J. D. and E. J. Zajac (1997). 'Defections from the Inner Circle: Social Exchange, Reciprocity, and the Diffusion of Board Independence in U.S. Corporations', *Administrative Science Quarterly*, **42**, pp. 161-183.
- Wiersema, M. F. (2002). 'Holes at the top: Why CEO firings backfire', *Harvard Business Review*, **80**, pp. 70-78.
- Wiersema, M. F. and K. A. Bantel (1993). 'Top management team turnover as an adaptation mechanism: The role of the environment', *Strategic Management Journal*, **14**, pp. 485-504.
- Wiersema, M. F. and Y. Zhang (2011). 'CEO Dismissal: The role of investment analysts', *Strategic Management Journal*, **32**, pp. 1161-1182.
- Wowak, A. J., D. C. Hambrick and A. D. Henderson (2011). 'Do CEOs encounter within-tenure settling up? A multiperiod perspective on executive pay and dismissal', *Academy of Management Journal*, **54**, pp. 719-739.
- Zajac, E. J. and M. S. Kraatz (1993). 'A diametric forces model of strategic change: Assessing the antecedents and consequences of restructuring in the higher education industry', *Strategic Management Journal*, **14**, pp. 83-102.

Zhang, Y. (2006). 'The presence of a separate COO/president and its impact on strategic change and CEO dismissal', *Strategic Management Journal*, **27**, pp. 283-300.

Zhang, Y. and N. Rajagopalan (2010). 'Once an outsider, always an outsider? CEO origin, strategic change, and firm performance', *Strategic Management Journal*, **31**, pp. 334-346.

Zuckerman, M. (1979). 'Attribution of success and failure revisited, or: The motivational bias is alive and well in attribution theory', *Journal of Personality*, **47**, pp. 245-287.

Table 1
Variables Definitions

Variable Name	Description	Data Source
Dependent Variable		
CEO Dismissal	A binary variable (Dismissal) that equals 1 if the CEO experienced dismissal in any year and zero otherwise.	Factiva's full-text news database / ExecuComp
Explanatory Variables		
Poor Return	The absolute value of a firm's competitor-adjusted stock return when stock return was below the median competitors' return and zero otherwise.	Compustat
Poor Profitability	The absolute value of a firm's competitor-adjusted profitability when firm profitability was below the median competitors' profitability and zero otherwise.	
Deviant resource reallocation	A measure that captures patterns in a six-dimensional measurement of resources allocation that deviate not only from past allocation, but also deviate from the resources' allocation of the hypothetical firm that have the same characteristics as the firm in question.	
Moderator Variables		
Board Industry Experience	The ratio of the aggregate number of years when independent directors had current or past work experience in the same industry as the focal firm, to the number of independent directors.	BoardEx
Board CEO Experience	The ratio of the aggregate number of years when independent directors had current or past work experience as CEO, to the number of independent directors.	
Control Variables		
Firm Size	The natural logarithm of total assets at fiscal year-end	Compustat
Dedicated	The percentage of shares outstanding held by dedicated institutions, as classified by Bushee and Noe (2000), at the end of the year.	
Quasi Index	The percentage of shares outstanding held by Quasi Index institutions, as classified by Bushee and Noe (2000), at the end of the year.	Thomson Reuter's institutional holdings
Transient	The percentage of shares outstanding held by transient institutions, as classified by Bushee and Noe (2000), at the end of the year.	
Num Analysts	The total number of analysts covering the firm for the fiscal period.	I/B/E/S
Analysts Accuracy	The percentage of the deviation of the median forecast value from the actual earnings per share.	
Systematic Risk	The standard deviation of predicted returns estimated from a firm-specific index model regression where the market return is the CRSP value-weighted market index. The model was estimated on a yearly basis using daily returns.	CRSP
Idiosyncratic Risk	The unexpected component of predicted returns estimated from a firm-specific index model regression where the market return is the CRSP value-weighted market index. The model was estimated on a yearly basis using daily returns.	
Board Size	The natural logarithm of the number of board members.	BoardEx
Board Independence	The fraction of independent directors on a board to its total number of directors.	
CEO Shareholding	The number of shares held by the CEO scaled by the number of shares outstanding.	ExecuComp

Variable Name	Description	Data Source
CEO Duality	Binary variable that equaled 1 when the positions of the CEO and the Chairman of the board were held by the same person and zero otherwise.	ExecuComp
CEO Cash	The natural logarithm of the sum of CEO salary and bonus	
Competitors ROA	The median return on assets of product market competitors of the focal firm.	Compustat
Competitors Return	The median stock return of product market competitors of the focal firm.	

Table 2
Descriptive Statistics and Correlations

	Mean	Std	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Dismissal _t	0.047	0.211	1																			
2. PoorReturn _{t-1}	0.115	0.183	0.050**	1																		
3. DeviantResourceReallocation _{t-1}	0.288	0.217	-0.013	0.024	1																	
4. BoardIndustryExperience _{t-1}	9.524	4.154	-0.037*	-0.016	-0.027	1																
5. BoardCEOExperience _{t-1}	5.374	3.670	-0.016	-0.026	-0.013	0.140**	1															
6. PoorROA _{t-1}	0.020	0.050	0.031*	0.244**	0.057**	-0.002	-0.062**	1														
7. FirmSize _{t-1}	7.170	1.556	0.047**	-0.056**	0.020	0.090**	0.240**	-0.180**	1													
8. Dedicated _{t-1}	0.045	0.068	0.020	0.013	0.006	0.010	0.030*	-0.017	0.073**	1												
9. QuasiIndex _{t-1}	0.508	0.205	0.003	-0.082**	0.008	0.102**	-0.026	-0.125**	0.127**	-0.382**	1											
10. Transient _{t-1}	0.220	0.129	-0.021	-0.056**	-0.012	-0.037*	-0.040**	-0.071**	-0.179**	0.151**	-0.333**	1										
11. NumAnalyst _{t-1}	10.878	8.082	-0.010	-0.049**	-0.024	0.077**	0.102**	-0.178**	0.526**	-0.002	0.121**	-0.015	1									
12. AnalystsAccuracy _{t-1}	0.089	0.380	-0.022	-0.077**	-0.012	-0.028	-0.020	-0.101**	-0.045**	-0.006	-0.018	0.033*	0.026	1								
13. SystematicRisk _{t-1}	0.015	0.008	0.001	0.052**	0.015	0.020	-0.049**	0.151**	-0.071**	-0.049**	-0.024	0.109**	-0.035*	-0.016	1							
14. IdiosyncraticRisk _{t-1}	0.025	0.011	0.051**	0.189**	0.009	-0.097**	-0.108**	0.318**	-0.398**	0.011	-0.248**	0.103**	-0.263**	-0.051**	0.611**	1						
15. BoardSize _{t-1}	2.109	0.254	0.036**	-0.057**	-0.007	0.034*	0.223**	-0.104**	0.643**	0.050**	0.047**	-0.154**	0.280**	-0.060**	-0.155**	-0.303**	1					
16. BoardIndependence _{t-1}	0.814	0.094	0.002	-0.026	0.013	-0.010	0.061**	0.014	0.216**	-0.076**	0.192**	-0.044**	0.066**	-0.000	-0.032*	-0.111**	0.275**	1				
17. CEOShareholding _{t-1}	1.844	1.453	-0.066**	0.037*	0.008	-0.010	-0.043**	0.014	-0.310**	-0.051**	-0.132**	0.023	-0.173**	0.030*	0.076**	0.141**	-0.278**	-0.317**	1			
18. CEODuality _{t-1}	0.494	0.500	-0.020	-0.003	0.001	0.055**	0.120**	-0.059**	0.192**	0.059**	-0.031*	0.030	0.120**	0.010	-0.038*	-0.093**	0.090**	0.029	0.184**	1		
19. CEOCash _{t-1}	6.738	0.757	0.012	-0.102**	0.001	0.051**	0.169**	-0.151**	0.542**	0.129**	0.066**	-0.058**	0.230**	-0.057**	-0.196**	-0.304**	0.428**	0.135**	-0.215**	0.203**	1	
20. CompetitorsReturn _{t-1}	0.002	0.349	0.025	0.044**	-0.017	0.004	0.026	-0.045**	0.040**	0.018	-0.016	0.072**	0.042**	0.056**	-0.333**	-0.341**	0.068**	0.024	-0.010	0.036*	0.095**	1
21. CompetitorsROA _{t-1}	0.053	0.056	-0.023	-0.059**	-0.008	-0.007	0.092**	-0.063**	0.153**	-0.057**	0.200**	-0.135**	0.023	0.002	-0.198**	-0.299**	0.190**	-0.008	0.051**	0.063**	0.247**	0.271**

The number of observations is 4, 223.

*p < 0.05 **p < 0.01 (two-tailed tests)

Table 3

Proportional Hazard Model Predicting CEO Dismissal

	Model1	Model2	Model3	Model4	Model5
FirmSize _{t-1}	0.548** (0.121)	0.562** (0.119)	0.593** (0.120)	0.578** (0.120)	0.599** (0.121)
Dedicated _{t-1}	0.047 (0.093)	0.040 (0.091)	0.044 (0.092)	0.048 (0.092)	0.053 (0.091)
QuasiIndex _{t-1}	0.177 (0.117)	0.177 (0.116)	0.172 (0.116)	0.167 (0.118)	0.166 (0.117)
Transient _{t-1}	0.117 (0.096)	0.120 (0.097)	0.123 (0.097)	0.125 (0.099)	0.122 (0.098)
NumAnalyst _{t-1}	-0.115 (0.092)	-0.133 (0.091)	-0.140 (0.094)	-0.135 (0.092)	-0.139 (0.093)
AnalystsAccuracy _{t-1}	-0.049 (0.121)	-0.052 (0.118)	-0.069 (0.119)	-0.079 (0.120)	-0.086 (0.119)
SystematicRisk _{t-1}	-0.133 (0.107)	-0.134 (0.107)	-0.141 (0.105)	-0.133 (0.110)	-0.141 (0.108)
IdiosyncraticRisk _{t-1}	0.531** (0.127)	0.539** (0.126)	0.553** (0.124)	0.542** (0.128)	0.545** (0.127)
BoardSize _{t-1}	0.141 (0.103)	0.138 (0.103)	0.122 (0.102)	0.145 (0.103)	0.118 (0.103)
BoardIndependence _{t-1}	-0.092 (0.090)	-0.094 (0.090)	-0.087 (0.089)	-0.095 (0.088)	-0.085 (0.088)
CEOShareholding _{t-1}	-1.003** (0.195)	-1.005** (0.193)	-0.998** (0.192)	-0.989** (0.192)	-0.986** (0.191)
CEODuality _{t-1}	-0.306* (0.153)	-0.294 (0.151)	-0.293 (0.150)	-0.281 (0.151)	-0.295* (0.150)
CEOCash _{t-1}	-0.213* (0.089)	-0.215* (0.087)	-0.217* (0.086)	-0.221* (0.087)	-0.217* (0.087)
CompetitorsReturn _{t-1}	0.153 (0.149)	0.134 (0.148)	0.135 (0.145)	0.119 (0.150)	0.125 (0.148)
CompetitorsROA _{t-1}	-0.025 (0.094)	-0.012 (0.094)	-0.000 (0.094)	-0.016 (0.095)	-0.006 (0.095)
BoardIndustryExperience _{t-1}	-0.083 (0.086)	-0.093 (0.085)	-0.163 (0.086)	-0.091 (0.085)	-0.155 (0.085)
BoardCEOExperience _{t-1}	-0.140 (0.086)	-0.133 (0.085)	-0.137 (0.087)	-0.210* (0.090)	-0.202* (0.090)
PoorROA _{t-1}	0.010 (0.078)	-0.007 (0.081)	0.009 (0.081)	-0.021 (0.088)	0.008 (0.084)
PoorReturn _{t-1}	0.162* (0.070)	0.168* (0.071)	0.133 (0.070)	0.141 (0.072)	0.139* (0.071)
DeviantResourceReallocation _{t-1}		-0.170* (0.082)	-0.200* (0.082)	-0.187* (0.076)	-0.212** (0.080)
PoorReturn _{t-1} x DeviantResourceReallocation _{t-1}		0.190** (0.064)	0.209** (0.057)	0.179** (0.061)	0.221** (0.055)
PoorReturn _{t-1} x BoardIndustryExperience _{t-1}			0.069 (0.063)		0.048 (0.068)
DeviantResourceReallocation _{t-1} x BoardIndustryExperience _{t-1}			-0.096 (0.082)		-0.071 (0.082)
PoorReturn _{t-1} x DeviantResourceReallocation _{t-1} x BoardIndustryExperience _{t-1}			0.136** (0.051)		0.124* (0.050)
PoorReturn _{t-1} x BoardCEOExperience _{t-1}				0.127* (0.060)	0.118 (0.065)
DeviantResourceReallocation _{t-1} x BoardCEOExperience _{t-1}				-0.148 (0.081)	-0.134 (0.083)
PoorReturn _{t-1} x DeviantResourceReallocation _{t-1} x BoardCEOExperience _{t-1}				0.159** (0.059)	0.143* (0.058)
Wald χ^2	164.389**	187.937**	226.649**	206.371**	244.822**
Log pseudo-likelihood	-1,145	-1,139	-1,137	-1,136	-1,131
Pseudo R ²	0.084	0.089	0.091	0.091	0.096

The number of observations for each model is 4,223. All models include year fixed effects. Robust standard errors, clustered on firm level, are reported in parentheses.

* p < 0.05 ** p < 0.01 (two-tailed tests)

Table 4
Logistic Regression with Firm-fixed Effects Predicting Probability of CEO Dismissal

	Model1	Model2	Model3	Model4	Model5
FirmSize _{t-1}	1.286* (0.581)	1.303* (0.590)	1.351* (0.586)	1.422* (0.586)	1.479* (0.583)
Dedicated _{t-1}	-0.164 (0.162)	-0.158 (0.162)	-0.144 (0.164)	-0.173 (0.162)	-0.161 (0.164)
QuasiIndex _{t-1}	-0.002 (0.218)	-0.004 (0.220)	-0.004 (0.223)	-0.076 (0.225)	-0.069 (0.227)
Transient _{t-1}	-0.193 (0.167)	-0.205 (0.173)	-0.185 (0.173)	-0.239 (0.170)	-0.215 (0.171)
NumAnalyst _{t-1}	-0.170 (0.191)	-0.181 (0.189)	-0.178 (0.187)	-0.228 (0.190)	-0.225 (0.188)
AnalystsAccuracy _{t-1}	-0.013 (0.095)	-0.007 (0.096)	-0.011 (0.096)	-0.016 (0.096)	-0.017 (0.097)
SystematicRisk _{t-1}	-0.556** (0.206)	-0.557** (0.211)	-0.577** (0.217)	-0.541* (0.216)	-0.556* (0.220)
IdiosyncraticRisk _{t-1}	0.869** (0.201)	0.863** (0.205)	0.888** (0.209)	0.882** (0.204)	0.907** (0.207)
BoardSize _{t-1}	0.194 (0.227)	0.212 (0.226)	0.201 (0.226)	0.166 (0.225)	0.168 (0.224)
BoardIndependence _{t-1}	-0.503** (0.176)	-0.511** (0.178)	-0.530** (0.183)	-0.539** (0.181)	-0.550** (0.184)
CEOShareholding _{t-1}	0.185 (0.183)	0.166 (0.186)	0.161 (0.189)	0.147 (0.192)	0.141 (0.195)
CEODuality _{t-1}	0.720** (0.250)	0.768** (0.254)	0.784** (0.261)	0.794** (0.260)	0.811** (0.266)
CEOCash _{t-1}	-0.042 (0.138)	-0.035 (0.137)	-0.045 (0.139)	-0.054 (0.138)	-0.065 (0.139)
CompetitorsReturn _{t-1}	0.349 (0.181)	0.354* (0.177)	0.355* (0.176)	0.336 (0.181)	0.345 (0.181)
CompetitorsROA _{t-1}	-0.264 (0.174)	-0.257 (0.179)	-0.236 (0.178)	-0.212 (0.182)	-0.203 (0.180)
BoardIndustryExperience _{t-1}	-0.239 (0.189)	-0.258 (0.186)	-0.285 (0.180)	-0.252 (0.186)	-0.277 (0.182)
BoardCEOExperience _{t-1}	0.135 (0.180)	0.147 (0.183)	0.164 (0.181)	0.085 (0.188)	0.098 (0.188)
PoorROA _{t-1}	-0.152 (0.121)	-0.147 (0.126)	-0.145 (0.124)	-0.167 (0.126)	-0.159 (0.125)
PoorReturn _{t-1}	0.217* (0.092)	0.204* (0.093)	0.194* (0.091)	0.216* (0.093)	0.205* (0.093)
DeviantResourceReallocation _{t-1}		0.002 (0.099)	-0.046 (0.096)	-0.029 (0.099)	-0.068 (0.098)
PoorReturn _{t-1} x DeviantResourceReallocation _{t-1}		0.178* (0.077)	0.162* (0.079)	0.194** (0.074)	0.190* (0.075)
PoorReturn _{t-1} x BoardIndustryExperience _{t-1}			0.013 (0.082)		-0.029 (0.086)
DeviantResourceReallocation _{t-1} x BoardIndustryExperience _{t-1}			-0.132 (0.106)		-0.111 (0.106)
PoorReturn _{t-1} x DeviantResourceReallocation _{t-1} x BoardIndustryExperience _{t-1}			0.152* (0.074)		0.147* (0.071)
PoorReturn _{t-1} x BoardCEOExperience _{t-1}				0.190* (0.082)	0.194* (0.086)
DeviantResourceReallocation _{t-1} x BoardCEOExperience _{t-1}				-0.102 (0.105)	-0.091 (0.106)
PoorReturn _{t-1} x DeviantResourceReallocation _{t-1} x BoardCEOExperience _{t-1}				0.177* (0.076)	0.163* (0.076)
Wald χ^2	79.408**	89.730**	97.145**	108.873**	112.416**
Log pseudo-likelihood	-257	-254	-252	-251	-249
Pseudo R ²	0.147	0.154	0.161	0.166	0.172

The number of observations for each model is 1,000 for each model. All models include year and firm fixed effects. Robust standard errors, clustered on firm level, are reported in parentheses.

* p < 0.05 ** p < 0.01 (two-tailed tests)

Figure 1
Plots of Interaction Effects

