

Article

Turnover by Non-CEO Executives in Top Management Teams and Escalation of Commitment

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Abstract: This article investigates the relationship between the decision-making bias known as escalation of commitment and the turnover of non-CEO executives in top management teams. The phenomenon of escalation of commitment is observed when decision makers persist with business investments that have a low likelihood of success. Theoretical explanations for the association between executive turnover and escalation include self-justification and reputation protection. Top managers may conceal prior errors, escalate commitment to earlier decisions, and exit the organization before the outcome of decisions is observed. Successor managers do not have a commitment to earlier decisions and have the capability to stop investments that are discovered to be failing. Empirical analysis utilizing a sample of over 1600 U.S. firms confirms that departures by non-CEO executives from top management teams are associated with an increased likelihood of new reporting of discontinued operations and extraordinary items by firms and a reduction in the firms' performances relative to their industry. These effects reflect de-escalation activities and are amplified in the years concurrent with and following a joint departure of multiple management team members. Prior empirical studies on escalation and de-escalation behavior focused on CEO turnover. The contribution of this article is its documenting of the key role of non-CEO managers and team turnover in the context of escalation.

Keywords: escalation of commitment; executive turnover; top management teams; analytics; corporate governance



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1. Introduction

This study examines how turnover in a firm's top management team (TMT) relates to the re-evaluation of decisions at the firm and explores the evidence of escalation of commitment among TMT members. Escalation of commitment refers to a documented decision-making bias by managers who persist in allocating the firm's resources to a project despite receiving negative feedback about it (Staw and Ross 1987; Slesman et al. 2012). Researchers are intrigued by escalation of commitment because it implies a systematic deviation from rational decision-making that leads to wasting resources on doomed projects. The primary theories explaining the escalation of commitment phenomenon rely on psychological factors such as the manager's self-justification in not admitting prior errors in choosing failing investments (Staw 1976, 1981), organizational factors such as the inertia that impedes the firm from altering its direction (Ross and Staw 1993; Brockner 1992), and economic factors such as the manager's strategic choice to hide previous mistakes in order to preserve his or her reputation (Kanodia et al. 1989; Chulkov and Barron 2021).

The existing literature suggests a positive correlation between escalation of commitment and turnover in a firm's management. This correlation follows from the personal responsibility effect, which states that the manager accountable for the initial project selection decision exhibits a higher propensity to reinvest in the same project (Staw 1976; Bazerman et al. 1984; Brody and Frank 2002). Managers may conceal prior mistakes in the allocation of the firm's resources, escalate commitment to earlier decisions, and then attempt to leave the firm before the outcome of their investment choices is observed. Incoming managers do not have a commitment to earlier decisions and are able to stop

investments that are discovered to be failing (Chulkov and Barron 2021). Consequently, turnover in management can serve as an effective strategy to halt over-investment and de-escalate excessive commitment to failing projects, particularly when the new decision makers bear no personal responsibility for the original decisions (Staw et al. 1997; Keil and Robey 1999; Kalmanovich-Cohen et al. 2018). Evidence of escalation of commitment can be observed in the de-escalation changes that follow management turnover (Staw et al. 1997; Chulkov and Barron 2019).

Escalation behavior reflects the principal–agent conflict as the behavior of the managers does not align with the interests of the firm (Sleesman et al. 2012). Corporate governance and internal auditing provide mechanisms for the alignment of the managers' incentives with those of the firm's principals (Shleifer and Vishny 1997; Tawfik et al. 2023). The escalation literature suggests that strong corporate governance and monitoring incentives help alleviate the escalation of commitment by managers (Buchholtz et al. 1999; Huang et al. 2016; Sleesman et al. 2018; Licht 2021). The rotation of duties in management has been proposed as a de-escalation strategy (Chulkov and Barron 2019). While these studies provide theoretical arguments, empirical evidence on the scale of escalation of commitment in businesses and the effectiveness of corporate governance mechanisms in addressing escalation of commitment remains limited (Sleesman et al. 2012; Chulkov and Barron 2021).

Much of the evidence on escalation-of-commitment behavior comes from psychological experiments (Staw 1976) and management case studies (Ross and Staw 1986, 1993; Sleesman et al. 2012). Empirical analysis of financial data linked to escalation and de-escalation of commitment in management remains relatively rare and focuses on the role of CEOs (Chulkov and Barron 2021). This study aims to fill the gap in the literature by examining the role of non-CEO executives in escalation of commitment.

Turnover by non-CEO managers is more common than that by CEOs (Fee and Hadlock 2004), and it has been linked to changes in the strategic direction of the firm (Hayes et al. 2006; Buyl et al. 2015; Cho et al. 2022) and firm performance (Hancock et al. 2013). The upper-echelons perspective views the strategic choices and performance of an organization as the result of decisions not only by the CEO but also by non-CEO members of the TMT (Hambrick and Mason 1984). Shen and Cannella (2002) argue that analysis of the entire TMT and not just the CEO is crucial for understanding changes at the firm.

In this study, an extensive data set of over 1600 publicly traded U.S. firms is created, covering the period from 1993 to 2019. Cases of turnover in top management teams are identified for the top four managers in each firm. The data set includes financial variables that are indicative of project terminations and strategic changes at the firm, including the initiation of new sequences of discontinued operations reporting, reporting of extraordinary items on financial statements, and changes in the return on assets relative to the firm's industry. The empirical analysis confirms that departures by non-CEO members of TMT are associated with an increased likelihood of new reporting of discontinued operations, more frequent reporting of extraordinary items, and a reduction in the firm's performance relative to its industry. Furthermore, these effects are stronger in the years concurrent with and following the joint departure of both the CEO and the non-CEO members of the top management team. Results also demonstrate that project terminations and strategic changes at firms do not precede such managerial turnover but are observed in the concurrent or subsequent year, which is consistent with de-escalation activities by incoming managers.

This article provides several contributions to research and practice. First, it presents empirical evidence consistent with the escalation of commitment by non-CEO members of TMTs. Earlier empirical research focused solely on CEO turnover in the context of escalation of commitment. This study contributes to the literature by documenting the key role of non-CEO managers in the escalation of commitment to failing investments. Second, it shows a pattern of project terminations related to non-CEO management turnover across several empirical measures, including discontinued operations, reports of extraordinary items, and reductions in the firms' return on assets. While discontinued operations have been

explored as a measure of strategic changes at the firm (Statman and Sepe 1989; Barron et al. 2011), the other measures provide new empirical evidence on the impact of TMT turnover. Third, the results suggest that changes in the firm's leadership may be an effective way to address escalation of commitment, as de-escalation changes are observed concurrently and subsequently to turnover by non-CEO members of the TMT. Fourth, these results inform corporate governance as well as decision-making by supervisory boards and shareholders in relation to top management escalation behavior.

The article proceeds in the following way. Section 2 presents the theoretical background and outlines the hypotheses. Section 3 describes data set construction and research methodology. Section 4 presents the results. The conclusion follows in Section 5.

2. Background and Hypotheses

Several empirical and experimental studies have suggested a link between executive turnover and escalation of commitment based on the personal responsibility effect. This effect implies that an executive who is responsible for the original selection decision tends to persist with the choice (Staw 1976; Bazerman et al. 1984). Their actions are subject to the escalation of commitment bias due to such reasons as self-justification (Sleesman et al. 2012) or attempts to protect reputation by avoiding recognition of mistakes (Kanodia et al. 1989). When such an executive leaves the decision-making position, the motivation to escalate the firm's commitment to the decision diminishes (Staw et al. 1997; Keil and Robey 1999; Kalmanovich-Cohen et al. 2018). The firm's new leadership, not personally responsible for the decisions made by the departed executives, can modify the firm's operations according to the firm's best interests. Consequently, departures by members of top management teams from the firm may adversely affect the firm's operations and performance as investment decisions are reversed and resources are redirected to alternative uses.

Barron et al. (2011), as well as Chulkov and Barron (2019), conducted empirical studies of CEO turnover and showed that CEO departures, particularly forced departures and contender successions, are related to negative outcomes at the firm, such as increased probability of discontinued operation reports and underperformance on financial metrics such as net income and market value. Chulkov and Barron (2021) constructed a principal-agent model of escalation behavior with asymmetric information. In this model, a top manager is responsible for selecting a firm's investment portfolio and later observes the outcome of these decisions before it is publicly revealed. If the choices made by the manager are discovered to be failing, the manager has an incentive to leave the firm before the failure is publicly known to limit reputation damage.

This earlier research examined the contribution of the CEO to escalation of commitment. The current article extends prior research by focusing specifically on the non-CEO members of the TMT. The emerging literature on the patterns of non-CEO top manager turnover shows that non-CEO turnover is common and has a significant impact on firms (Fee and Hadlock 2004; Messersmith et al. 2013; Buyl et al. 2015). The upper echelon perspective views the strategic choices and performance of an organization as the outcome of actions by not only the CEO but also non-CEO managers such as the COO, CFO, and CMO (Hambrick and Mason 1984). Shen and Cannella (2002) state that analyzing the whole top management team and not just the CEO is essential for understanding strategic changes at the firm. Carpenter et al. (2004) provide a comprehensive review of the upper echelon literature. The large data set created for this article contains information on non-CEO turnover for key members of the TMT. The upper echelons perspective implies that changes in the non-CEO members of the TMT influence strategic choices at the firm.

Reversals in the strategic decisions of the firm are reflected in the public reporting of discontinued operations that indicate the termination or sale of operations large enough to be classified as divisions (Statman and Sepe 1989). A broader measure of unusual changes in a firm's operations, not limited by accounting standards to divisions of the firm, is the accounting reporting of extraordinary items. When escalation of commitment is discovered and real investments made by the firm are discontinued, the firm is expected to

underperform compared to its industry peers, and a relative firm performance measure should capture this impact (Jenter and Kanaan 2015). Hypotheses 1, 2, and 3 describe the expected effect of turnover by non-CEO members of the TMT on the firm in the presence of escalation of commitment.

Hypothesis 1. *Turnover by non-CEO members of the TMT is positively associated with new discontinued operations by the firm.*

Hypothesis 2. *Turnover by non-CEO members of the TMT is positively associated with extraordinary items reported by the firm.*

Hypothesis 3. *Turnover by non-CEO members of the TMT is negatively associated with firm performance.*

Several studies show that the impact of turnover by non-CEO top managers is stronger when it coincides with the departure of the CEO from the firm (Fee and Hadlock 2004; Hayes et al. 2006; Buyl et al. 2015). Escalation of commitment in the TMT may occur as both an individual and a group process (Bazerman et al. 1984; Sleesman et al. 2012). The relationships specified in Hypotheses 1–3 are, therefore, expected to be enhanced when the non-CEO turnover occurs jointly with a departure by the CEO. This is represented by Hypotheses 4–6.

Hypothesis 4. *Joint turnover of the CEO and non-CEO members of the TMT is positively associated with new discontinued operations by the firm.*

Hypothesis 5. *Joint turnover of the CEO and non-CEO members of the TMT is positively associated with extraordinary items reported by the firm.*

Hypothesis 6. *Joint turnover of the CEO and non-CEO members of the TMT is negatively associated with firm performance.*

3. Data and Methodology

This study relies on an extensive data set constructed using data from the ExecuComp and the ExecuComp databases to examine the link between escalation behavior and turnover among non-CEO top executives. The approach to data set creation is similar to other studies that use a combination of the ExecuComp and CompuStat data (Barron et al. 2011; Jenter and Kanaan 2015; Chulkov and Barron 2023). The data set includes variables that reflect the impact of reversals in the firms' investment choices that the theory suggests in situations of escalating commitment. Variables are also constructed to identify the CEO and non-CEO TMT members and instances of turnover involving these managers.

Construction of the data set originates with ExecuComp data for the period from 1992 to 2020. The data are combined with financial variables from CompuStat on U.S. publicly traded firms. The initial sample comprises 3880 firms and 56,563 firm-year observations. Observations are excluded for firms that have an ambiguous CEO definition, such as co-CEOs and CEOs shared among firms, as well as for firms that undergo a major restructuring, such as spinoffs, mergers, or bankruptcy. Firms in the sample are required to have data for at least four members of the TMT, including the CEO. Firms that do not have such data are excluded. Firms are also excluded from the data set if there are missing data for key financial variables.

Managerial turnover is identified based on yearly changes in the list of top managers at the firm, following Chulkov and Barron (2024). A ranking of all executives listed at each firm by executive compensation was used to identify non-CEO members of the TMT. The ExecuComp data on top managers includes between four and eleven top managers for each firm in the data set. If a manager listed as either the CEO or one of the top three

non-CEO managers is not included again in the entire list of the firm's managers in the following fiscal year, then a turnover event is recorded in the data set. Variables are created to track turnover by non-CEO managers, by the CEO, as well as joint turnover by the CEO and at least one non-CEO member of the TMT. The measure of non-CEO turnover is equal to the total number of non-CEO members of the TMT leaving the firm in a fiscal year. Joint turnover of the CEO and non-CEO managers is recorded by a dummy variable that is equal to 1 when both the CEO and non-CEO managers leave the firm in a fiscal year and zero otherwise. Additional searches of full-text news were used to verify the timing of managerial turnover and confirm the cases of turnover identified during data set construction. The result is a data set of 3782 firms and 47,627 firm-year observations.

Three separate dependent variables are used in the empirical analysis to evaluate changes in the firm's operations around the time of non-CEO turnover. The first measure is the disclosure of new discontinued operations. Discontinued operations are parts of a firm's operations that have been sold or shut down and are reported separately from continuing operations on accounting statements (Statman and Sepe 1989). Since the financial implications of discontinued operations are commonly spread over multiple years, the analysis below focuses on the first disclosure of discontinued operations in each sequence. This is recorded as a dummy variable that equals 1 when such a sequence of discontinued operations was started in a fiscal year and zero otherwise. To focus the analysis, the final data set is restricted to firms that experience at least one report of discontinued operations in the sample period. This results in a sample of 1632 firms and 26,060 firm-year observations. As a robustness check, all the models reported in Section 4 are estimated for this restricted sample as well as the full sample. The significance of the results survives such alternative specifications.

Discontinued operations record division-level changes in the firm's strategic choices. Terminations of smaller projects are reflected in the reporting of extraordinary items in the accounting data. A dummy variable that indicates whether the firm reported extraordinary items in a fiscal year serves as the second measure of project terminations in the data set. Reversals in strategy and project terminations consistent with de-escalation of commitment by managers would also be reflected in measures of firm performance.

The third dependent variable is derived from the firm's rate of return on assets (ROA) based on CompuStat data. This is a measure of unexpected changes in the firm's rate of return derived by computing the difference between a firm's actual annual return on assets and the average rate of return for other firms in the same year and the same industry based on the two-digit NAICS code. This measure represents the relative rate of return on assets (Jenter and Kanaan 2015). Similar to the discontinued operations dependent variable, the measures of extraordinary items and relative ROA serve to reflect the economic impact of changes in the firm's strategy and performance. Table 1 presents summary statistics for the data sample. Table A1 in Appendix A outlines the definitions of variables and presents data sources.

Table 1. Summary statistics for data sample.

Variable	Mean	Standard Deviation	Min	Max	N
New discontinued operations	0.101	0.301	0	1	26,060
Extraordinary items	0.348	0.476	0	1	26,060
Relative return on assets (ROA)	0.007	0.172	−12.088	10.979	26,060
Non-CEO top management turnover	0.440	0.637	0	3	26,060
Joint departure of CEO and non-CEO managers	0.042	0.200	0	1	26,060
Log of assets	8.122	1.722	1.662	14.838	26,060
R&D to assets ratio	0.021	0.047	0	1.003	26,060
Market-to-book value	1.174	1.383	0.0002	84.260	26,060
Log of CEO tenure at firm	1.634	0.912	0	4.127	26,060
Fiscal year	2005.8	7.37	1993	2019	26,060

Note: Full description of the data appears in Appendix A, Table A1.

The methodology of the empirical analysis applies regression models with fixed effects to evaluate the impact of non-CEO TMT turnover on the firms in the data set. Three empirical models are estimated separately, one for each of the dependent variables. The fixed-effects specification is important in that it controls for differences across firms that may happen due to such factors as industry, company life cycle, and business strategy. Firm characteristics and changes over time are controlled with the inclusion of control variables suggested in the literature (Jenter and Kanaan 2015; Chulkov and Barron 2019; Chulkov and Wang 2023), as well as year dummy variables in each model.

4. Results

4.1. Impact of Non-CEO Top Management Turnover

The results on the impact of non-CEO turnover are reported in Table 2. The table presents three empirical models, one for each of the dependent variables. The results indicate that observed turnover by non-CEO members of the TMT is associated with reports of new discontinued operations, more frequent reporting of extraordinary items, and a reduction in a firm’s performance relative to its industry. All of these findings are significant at the 1-percent level. The results of column (1) support Hypothesis 1, while column (2) provides support for Hypothesis 2, and column (3) confirms Hypothesis 3.

Table 2. Impact of non-CEO top management turnover on discontinued operations, extraordinary items reporting, and firm performance.

	New Discontinued Operations	Extraordinary Items	Relative ROA
	(1)	(2)	(3)
Non-CEO turnover	0.178 ** (0.0321)	0.0182 ** (0.0044)	−0.0099 ** (0.0016)
Log of assets	0.479 ** (0.0527)	0.0209 ** (0.0058)	−0.0211 ** (0.00208)
Prior year’s R&D to assets ratio	3.232 ** (0.997)	0.0469 (0.124)	0.0969 * (0.0449)
Prior year’s market-to-book ratio	−0.237 ** (0.0386)	−0.0200 ** (0.0027)	0.0103 ** (0.00097)
Log of CEO tenure	−0.0664 * (0.0281)	−0.0324 ** (0.0035)	0.00247 (0.0013)
Year Controls	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Observations	26,060	26,060	26,060

Statistical significance is denoted by * and ** at the 5% and 1% levels, respectively; standard errors are reported in parentheses.

4.2. Impact of Joint CEO and Non-CEO Top Management Turnover

Table 3 continues the analysis by including a measure of joint turnover by the CEO and non-CEO members of the TMT. As mentioned earlier, the regression models include firm-level fixed effects and year control variables. The results indicate that the patterns found in Table 2 are significantly enhanced when both the CEO and non-CEO members of the TMT leave the firm. The impact of joint turnover on the reporting of discontinued operations, extraordinary items, and relative firm performance is significant at the 1-percent level. The results reported in column (1) of Table 3 provide support for Hypothesis 4, while column (2) confirms Hypothesis 5, and column (3) supports Hypothesis 6.

Table 3. Impact of joint CEO and non-CEO top management turnover on discontinued operations, extraordinary items reporting, and firm performance.

	New Discontinued Operations	Extraordinary Items	Relative ROA
	(1)	(2)	(3)
Non-CEO turnover	0.136 ** (0.0336)	0.0125 ** (0.0045)	−0.0076 ** (0.0016)
Joint CEO and non-CEO turnover	0.478 ** (0.0949)	0.0694 ** (0.0142)	−0.0277 ** (0.00513)
Log of assets	0.476 ** (0.0527)	0.0205 ** (0.0058)	−0.0210 ** (0.00208)
Prior year's R&D to assets ratio	3.225 ** (1.000)	0.0405 (0.124)	0.0995 * (0.0449)
Prior year's market-to-book ratio	−0.231 ** (0.0385)	−0.0197 ** (0.0027)	0.0102 ** (0.00097)
Log of CEO tenure	−0.0994 ** (0.0289)	−0.0358 ** (0.0036)	0.00383 ** (0.0013)
Year Controls	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Observations	26,060	26,060	26,060

Statistical significance is denoted by * and ** at the 5% and 1% levels, respectively; standard errors are reported in parentheses.

Escalation of commitment may be a group phenomenon if the decision-making is distributed among the TMT (Bazerman et al. 1984; Kalmanovich-Cohen et al. 2018). Joint departures by both the CEO and non-CEO members of the TMT are more likely to result in the removal of personal responsibility and the correction of escalation decision errors. The results of Table 3 confirm the stronger impact of joint turnover in bringing about changes at the firm.

4.3. Timing of Top Management Turnover

The analysis in Table 4 explores the impact of the managerial turnover timing on the changes observed at the firm. As in all the previous analyses, the regression models include firm-level fixed effects as well as year control variables. The specifications in this table build upon the ones in Table 3 and introduce three dummy variables to identify the fiscal years before the joint turnover of both CEO and non-CEO members of the TMT, the fiscal years coincident with the joint turnover, and the fiscal years after the joint turnover.

The results confirm that the impact of TMT turnover on the firm's operations and performance is significantly stronger in the years concurrent with and subsequent to joint TMT turnover. This timing is consistent with the theories on escalation of commitment and the personal responsibility effect. As the executives responsible for the allocation of the firm's resources leave the firm, personal responsibility stops playing a role in the escalation of commitment process. De-escalation activities may be taken to address escalation that was not in the best interest of the firm (Staw et al. 1997; Keil and Robey 1999; Kalmanovich-Cohen et al. 2018).

Overall, the empirical results demonstrate the importance of turnover by non-CEO members of the TMT to the firm and its stakeholders. The impact of non-CEO turnover is enhanced when the CEO leaves the firm jointly with non-CEO managers. Turnover by members of the TMT serves an important role in corporate governance as it helps reveal and address escalation of commitment by top managers.

Table 4. Timing of top management turnover and discontinued operations, extraordinary items reporting, and firm performance.

	New Discontinued Operations	Extraordinary Items	Relative ROA
	(1)	(2)	(3)
Non-CEO turnover	0.133 ** (0.0337)	0.0120 ** (0.0045)	−0.00741 ** (0.0016)
Year before joint CEO and non-CEO turnover	0.204 (0.106)	0.0210 (0.0139)	−0.00941 (0.0050)
Year of joint CEO and non-CEO turnover	0.524 ** (0.0969)	0.0748 ** (0.0144)	−0.0296 ** (0.0052)
Year after joint CEO and non-CEO turnover	0.224 * (0.108)	0.0640 ** (0.0150)	−0.0149 ** (0.0054)
Log of assets	0.468 ** (0.0528)	0.0192 ** (0.0058)	−0.0206 ** (0.0021)
Prior year's R&D to assets ratio	3.195 ** (1.003)	0.0334 (0.124)	0.102 * (0.0449)
Prior year's market-to-book value ratio	−0.229 ** (0.0384)	−0.0195 ** (0.0027)	0.0102 ** (0.0010)
Log of CEO tenure	−0.0829 ** (0.0316)	−0.0303 ** (0.0039)	0.00271 (0.0014)
Year Controls	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Observations	26,060	26,060	26,060

Statistical significance is denoted by * and ** at the 5% and 1% levels, respectively; standard errors are reported in parentheses.

5. Discussion and Conclusions

This study examines the link between turnover by non-CEO members of top management teams and changes at the firm suggested by the escalation of commitment theory. Escalation of commitment happens when decision makers continue business investments that are unlikely to succeed. Theoretical reasons for the link between turnover and escalation include psychological factors such as self-justification and economic factors such as protection of reputation by managers (Sleesman et al. 2012; Chulkov and Barron 2019). TMT members may conceal prior decision errors, escalate commitment to earlier decisions, and depart from the firm before the outcome of their decisions is observed publicly. Incoming managers do not have a commitment to earlier decisions and are able to stop investments that are discovered to be failing (Chulkov and Barron 2021).

Empirical analysis based on a sample of over 1600 publicly traded U.S. firms confirms that departures by non-CEO members of top management teams are associated with an increased likelihood of new reporting of discontinued operations and extraordinary items, as well as a reduction in the firm's performance relative to their industry. Such reporting of new discontinued operations and extraordinary items is indicative of reversals in investment decisions in de-escalation of commitment. These effects are stronger when both the CEO and non-CEO top managers leave the firm. While earlier empirical research focused solely on CEO turnover in examining escalation of commitment, an important contribution of this study is its documenting of the key role of non-CEO members of the TMT.

This study complements research by Jiang et al. (2017), who suggest that executives in declining firms may exhibit ship-jumping behavior and voluntarily switch to new employers before their failure is detected to evade the stigma. The data set employed by Jiang et al. (2017) represents a much smaller sample of departures of Chinese executives who are usually not members of the TMT and are much earlier in their careers. In contrast, the data set in the current study incorporates over 1600 firms and a wide range of senior executives in top management teams.

Limitations of this study come from the nature of its data set. While the breadth of the data is extensive, covering more than 1600 U.S. firms over a quarter of a century, the granularity of the data does not allow for the examination of specific differences in corporate governance structure. The empirical analysis controls for multiple firm, industry, and executive characteristics; however, examination of the impact of variation in corporate governance, perhaps in a smaller and more granular data set, remains an area for future research. Slesman et al. (2018) point out that escalation of commitment is a complex process driven by multiple organizational and economic factors, and a more detailed analysis of its context is important.

The results of this study indicate that changes in the firm's top management team may serve as an effective way to address escalation of commitment, particularly in the decisions that involve non-CEO members of the TMT. This contributes to both the growing research on de-escalation of commitment and the practice of corporate governance.

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Data Availability Statement: The data for this research were sourced from publicly available databases of *CompuStat* and *ExecuComp*. The data definitions and sources are listed in Appendix A.

Conflicts of Interest: The author declares no conflicts of interest.

Appendix A

Table A1. Variable definitions.

Variable	Definitions	Data Source
Return on assets (ROA)	The firm's net income before extraordinary items and discontinued operations divided by total assets.	Compustat
New report of discontinued operations	Dummy variable is equal to 1 if the firm started a new sequence of discontinued operations reporting in the fiscal year and zero otherwise.	Compustat
Extraordinary Items	Dummy variable is equal to 1 if the firm reported after-tax items as extraordinary or exceptional after net income from continuing operations.	Compustat
Log of assets	Natural logarithm of book value of total assets.	Compustat
Market-to-book value	Market value of the firm divided by the book value of assets.	Compustat
R&D to book value	R&D spending of the firm divided by the book value of assets.	Compustat
Log of CEO tenure at firm	Natural logarithm of the number of years in which CEOs stay in position.	ExecuComp
Non-CEO top management turnover	Total number of top management team members departing the firm in a fiscal year.	ExecuComp, Author calculations
Joint CEO and non-CEO turnover	Dummy variable is equal to 1 if the CEO leaves the firm and at least one other TMT member also leaves the firm in a fiscal year and zero otherwise.	ExecuComp, Author calculations

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