Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Insider vs. outsider CEO and firm performance: Evidence from the Covid-19 pandemic

Md Reiazul Haque a,*, Bobae Choi b, Doowon Lee b, Sue Wright c

a University of Newcastle, Australia & Hajee Mohammad Danesh Science and Technology University, Bangladesh
b University of Newcastle, Australia
c University of Technology Sydney, Australia

ARTICLE INFO

JEL Classifications:
G30
J24
B26
G34

Keywords:
Insider CEO
Outsider CEO
Firm performance
Covid-19

ABSTRACT

We examine the connection between firm performance and a CEO’s previous position (inside or outside the firm), using Covid-19 as an exogenous shock. Firms led by insider CEOs outperformed those led by outsider CEOs in terms of return on assets during the Covid-19 crisis period in 2020, but there was no performance differential in the period before the crisis. Additional tests indicate that outperformance under insider CEOs is observed in firms holding more cash and firms with a higher proportion of internally promoted non-CEO executives. These findings have important implications for boards of directors making CEO appointments.

1. Introduction

The link between the chief executive officer (CEO) and firm performance has been extensively examined in the business media and by academics, in search of its key drivers. The CEO’s knowledge and skills are one set of drivers, linked to his/her previous status as an insider or an outsider to the firm. The proportion of CEOs who are outside appointments has been rising, motivating several studies to analyze whether CEO previous status matters for firm performance (e.g., Georgakakis and Ruigrok, 2017; Lauterbach et al., 1999; Schepker et al., 2017). However, the question has not been resolved by these studies, due to their mixed results and due to endogeneity concerns that CEO choice may be driven by performance itself. In this study, we evaluate performance by insider and outsider CEO-led firms during the Covid-19 crisis, using this low performance period as an exogenous shock to provide insight into previous mixed results.

The extant literature provides two competing views on how CEO origin (i.e., insider or outsider) is related to firm performance. Outsider CEOs are not bound to continue existing policies and can bring new perspectives to management and take decisive actions (Lauterbach et al., 1999). They can disrupt the status quo and explore broader strategic options (Grossman, 2007; Karaevli and Zajac, 2012). In addition, outsider CEOs may have a mandate to lead and implement strategic changes as firms usually hire CEOs externally.

* Corresponding author.
E-mail address: MdReiazul.Haque@uon.edu.au (M.R. Haque).

1 Murphy and Zabojnik (2007) report that the proportion of new CEOs of top 500 firms in Forbes annual survey who are outsiders has risen from 15% in 1980 to 33% in 1999. Quigley et al. (2019) report that 43% of changes of CEO among S&P1500 firms from 2006 to 2011 are outsiders.

2 For example, poorly-performing firms are more likely to hire a CEO externally (Datta & Guthrie, 1994; Lauterbach et al., 1999).

3 We use ‘Covid-19 crisis’ and ‘crisis’ interchangeably unless stated otherwise.
when there is strong demand for structural changes (Cannella Jr and Lubatkin, 1993).

However, strategic changes led by outsider CEOs may disrupt performance (Jongjaroenkamol and Laux, 2017; Schepker et al., 2017; Zhang and Rajagopalan, 2010). Relative to insider CEOs, outsider CEOs often lack nuanced understanding of resources and constraints (Greiner et al., 2003) and the competitive environment (Castanias and Helfat, 1991), and therefore their strategic changes may fail to build upon existing competencies (Zhang and Rajagopalan, 2004). Furthermore, appointments of outsider CEOs may lead to resignations of top executives who were passed over for promotion (Kale et al., 2014).

During a crisis period when there are few investment opportunities, outsider CEOs limited knowledge of existing firm capabilities and weak connections with internal key stakeholders can be even more detrimental to performance (Campello et al., 2010). They are unlikely to improve performance through innovation because such strategies would be too time-consuming and risky. Insider CEOs, in contrast, possess firm-specific knowledge and good understanding of organizational history and competencies (Schepker et al., 2017). They can utilize existing resources more efficiently when implementing changes, and their strategies may be better aligned to existing capabilities. Our research question examines whether CEO origin matters during a crisis period: Did firms led by insider CEOs have higher performance than those led by outsider CEOs during the Covid-19 crisis?

Using 5196 firm-quarters, we find that insider CEOs outperformed outsider CEOs during the Covid-19 crisis period in 2020, adding 0.51% to the quarterly return on assets (ROA). Such a difference translates to around US$140 million in annual net profit. When we compare performance between the crisis and pre-crisis periods, we find that a significant difference in ROA between insider and outsider CEO-led firms is only found during the crisis period. Additional tests suggest that insider CEOs outperform their opponents when more cash is held and when there are more internally appointed non-CEO executives (VPs).

The prior literature has used periods of normal business conditions to examine performance under insider CEOs who have firm-specific knowledge and skills versus outsider CEOs who contribute novel knowledge and skills (e.g., Cummings and Knott, 2018; Jalal and Prezas, 2012). By focusing on a period with high uncertainty and financial constraints, we contribute nuanced insight into the relation between CEO origin and firm performance. We also contribute to the literature by exploring how different types of CEO skills and strategies play out in periods when investment opportunities and access to external financing are restricted. By examining the

---

Table 1
Descriptive Statistics.

| Variables | Pre-Covid Period | Covid Period |
|-----------|-----------------|--------------|
|           | Insider CEO Sample | Outsider CEO Sample |
| ROA$_{t-1}$ | 2336 | 2296 | 2860 |
| Tobin’s $q_{t-1}$ | 2336 | 2296 | 2860 |
| Firm Size$_t$ | 2336 | 2296 | 2860 |
| Cash$_t$ | 2336 | 2296 | 2860 |
| Leverage$_t$ | 2336 | 2296 | 2860 |
| R&D$_t$ | 2336 | 2296 | 2860 |
| Capex$_t$ | 2336 | 2296 | 2860 |
| Board Size$_t$ | 2336 | 2296 | 2860 |
| Female Director$_t$ | 2336 | 2296 | 2860 |
| CEO Age$_t$ | 2336 | 2296 | 2860 |
| CEO Tenure$_t$ | 2336 | 2296 | 2860 |
| CEO Duality$_t$ | 2336 | 2296 | 2860 |
| CEO Bod Expr$_t$ | 2336 | 2296 | 2860 |
| CEO Network$_k$ | 2336 | 2296 | 2860 |

This table reports the descriptive statistics of the variables used in the baseline regression for the pre-Covid period (Panel A) and the Covid period (Panel B). All variables are defined in the Appendix. All continuous variables are winsorized at the 1% and 99% levels. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.
relative performance of firms led by insider and outsider CEOs during the Covid-19 crisis, we provide direct evidence that insider CEOs outperform their counterparts during crisis periods.

2. Data and methodology

We define the crisis period as four quarters in 2020. The sample includes U.S. publicly listed companies with all required data for this period, excluding observations from financial and utility industries. Quarterly financial data are obtained from FactSet, and annual data on CEO and board characteristics are collected from BoardEx. The final sample consists of 5196 firm-quarter observations from 1299 unique firms.

To examine performance by insider and outsider CEO-led firms during the crisis period, we estimate the following ordinary least square regression.

\[ \text{Performance}_{it} = \alpha + \beta_1 \text{Insider CEO}_{it} + \beta_2 \text{Firm Characteristics}_{it} + \beta_3 \text{Corporate Governance}_{it} + \beta_4 \text{CEO Characteristics}_{it} + \beta_5 \text{Quarter FE} + \beta_6 \text{Industry FE} + \beta_7 \text{State FE} + \epsilon_{it} \]  

(1)

### Table 2

| VARIABLES | (1) Crisis Period Only | (2) Whole Period |
|-----------|------------------------|------------------|
| ROA       | 0.506*** (0.161)       | 0.031 (0.186)    |
| Insider CEO × Crisis | 0.444*** (0.162) | -0.123 (0.131) |
| Crisis    | -0.123 (0.131)        | 0.760*** (0.091) |
| Firm Size | 0.713*** (0.097)       | 0.488*** (0.709) |
| Cash      | -3.488*** (0.709)     | -3.531*** (0.621) |
| Leverage  | -1.665*** (0.594)    | -1.741*** (0.570) |
| R&D       | -46.425*** (7.122)    | -51.804*** (6.288) |
| Capex     | 6.074 (10.279)        | 14.441** (7.120) |
| Lag ROA   | 0.405*** (0.036)      | 0.391*** (0.034) |
| Board Size | -1.055* (0.538)      | -1.252** (0.519) |
| Female Director | -0.680 (0.987) | -0.613 (0.920) |
| CEO Age   | 0.225 (0.951)         | -0.325 (0.868)  |
| CEO Tenure | 0.197*** (0.075)    | 0.203*** (0.066) |
| CEO Duality | 0.257 (0.167)       | 0.267* (0.147)  |
| CEO Bod Expr | -0.426** (0.166) | -0.341** (0.140) |
| CEO Network | 0.017 (0.081)       | -0.021 (0.072)  |
| Constant  | -1.558 (4.273)        | 1.011 (3.861)   |
| Industry FE | Yes                  | Yes              |
| Quarter FE | Yes                  | Yes              |
| State FE  | Yes                  | Yes              |
| Observations | 5196                | 10,392           |
| Adj. R-Squared | 0.464              | 0.493            |

This table presents baseline regression results on the association between insider CEO and firm performance. Insider CEO is a dummy variable set to 1 if a CEO had worked for at least two years for the firm before becoming the CEO, and 0 otherwise. Column 1 includes the crisis period of 2020 and Column 2 for 2019 and 2020. Crisis is a dummy variable set to 1 for firm-quarters in 2020, and 0 for firm-quarters in 2019. Other variables are defined in the Appendix. Heteroscedasticity-robust standard errors are in parentheses, clustered by firm. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.
where Performance\(_{t+1}\) refers to industry (Fama-French 12) adjusted ROA of firm \(i\) in quarter \(t+1\). Insider CEO is a dummy variable set to one if a CEO had worked for at least two years in the same firm prior to taking the current role, zero otherwise (Ridge et al., 2015; Zhu and Shen, 2016). We include controls for firm characteristics, corporate governance, and CEO characteristics, defined in the Appendix.

The test coefficient for our research question is \(\beta_1\) which we expect to be significantly different from zero if CEO origin matters. In Eq. (1), one-quarter lagged values of firm characteristics are included to avoid possible reverse causality concerns. We use one-year lagged values for Insider CEO, corporate governance, and other CEO characteristics as quarterly data on them are not disclosed.

To compare the association between CEO origin and performance in pre-crisis and crisis periods, we extend the sample period to the pre-Covid period in 2019. We add a dummy for the crisis period (Crisis) and an interaction between Insider CEO and Crisis to Eq. (1). In all models, heteroscedasticity-robust standard errors are clustered at the firm level.

Table 1 reports descriptive statistics for the pre-Covid period (Panel A) and the crisis period (Panel B). Continuous variables are winsorized at 1% and 99% levels. Insider CEO-led firms have 2.02% and 2.48% higher ROA compared to outsider CEO-led firms, in the pre- and Covid periods. This univariate test result is consistent with prior findings, e.g., Schepker et al. (2017), that insider CEOs generate better accounting performance than outsider CEOs.

3. Results and discussion

3.1. Baseline results

The results for Eq. (1) are reported in Table 2. Column 1 covers the crisis period only and Column 2 covers the whole sample period including the pre-crisis period of 2019. The coefficient of Insider CEO in Column 1 is positive and significant at 1% level. This suggests that internally-promoted CEOs outperformed externally-hired CEOs during the crisis period in 2020, by around 0.51% (2.04%) in quarterly (annualized) ROA. Since average total assets of insider CEO-led firms in the sample is US$6877 million, this difference equates to additional annual net profit of around US$140 million.

One might argue that insider CEOs are better performers than outsider CEOs regardless of business conditions. To test this, we run the baseline regression for the whole sample period adding an interaction between Insider CEO and Crisis. In Column 2 of Table 2, the coefficient of Insider CEO is insignificant, providing no support for a performance differential between insider and outsider CEO-led firms under normal business conditions. The coefficient of our main variable of interest, Insider CEO \(\times\) Crisis, is significantly positive, supporting the argument that leadership by insider CEOs has an incrementally positive effect on performance during a time of crisis.

We conduct several robustness tests of our baseline results (unreported). First, we employ propensity score matching to consider the endogenous choice of an insider CEO (Cummings and Knott, 2018) and re-run the regressions on a matched sample. Second, we consider alternative definitions of insider CEO: working for at least one, three or four years in the firm prior to being appointed as CEO. Third, we re-define the crisis period as the last three quarters of 2020. Although U.S. companies that engage in internal trade may have been affected by the pandemic from the first quarter in 2020, it was not until the end of that quarter, in March 2020, that the U.S. president declared Covid-19 a national emergency. Fourth, we re-run our main regression after excluding firms experiencing CEO turnover from the sample. Newly-appointed CEOs, especially outsiders, would be less familiar with operations in their early years of employment, impacting performance. In all these tests, our main finding continues to hold. In aggregate, our findings support the argument that insider CEOs’ firm-specific knowledge and skills give them an edge over outsider CEOs in a crisis setting.

In addition, we employ an alternative proxy for performance, Tobin’s \(q\), as the dependent variable in our main regression (unreported). The coefficient of Insider CEO is insignificant. It is possible that market-based performance measures are impacted by factors beyond executive control and therefore are unrelated to CEO characteristics (Georgakakis et al., 2017). Alternatively, market participants may assess any difference in financial performance between insider and outsider CEOs as a short-term phenomenon with no long-term impact on cash flows.

3.2. Alternative explanation

An alternative explanation for underperformance by outsider CEOs is earnings management. Outsider CEOs may be more likely than insider CEOs to manipulate earnings in response to steeper incentive pay structures (Jongjaroenkamol and Laux, 2017). It is possible that outsider CEOs ‘take a big bath’ in their early years to create a ‘cookie jar’ for boosting future performance. One way to achieve this would be reporting large and non-recurring charges in the income statement. Accordingly, we examine whether the presence of an outsider CEO is associated with such earnings management during the Covid-19 crisis. In doing so, we follow the prior literature (Haggard et al., 2015; Hope and Wang, 2018) and employ ‘special items’ as reported in the financial statements. The dependent variable is the inverted value of ‘special items’ as reported in the financial statements. The test coefficient for our research question is \(\beta_1\) which we expect to be significantly different from zero if CEO origin matters. In Eq. (1), one-quarter lagged values of firm characteristics are included to avoid possible reverse causality concerns. We use one-year lagged values for Insider CEO, corporate governance, and other CEO characteristics as quarterly data on them are not disclosed.

Table 2 reports descriptive statistics for the pre-Covid period (Panel A) and the crisis period (Panel B). Continuous variables are winsorized at 1% and 99% levels. Insider CEO-led firms have 2.02% and 2.48% higher ROA compared to outsider CEO-led firms, in the pre- and Covid periods. This univariate test result is consistent with prior findings, e.g., Schepker et al. (2017), that insider CEOs generate better accounting performance than outsider CEOs.

4 We check for multicollinearity in the baseline regression and find an average variance inflation factor of 1.46 with a maximum of 2.86 for Firm Size. Thus, our results are not subject to multicollinearity concerns. The correlation matrix for all variables is available on request from the authors.

5 Examples are writing down tangible and intangible assets, restructuring costs, or acknowledging litigation losses (Haggard et al., 2015).
The coefficient of *Insider CEO* is not significantly different from zero, suggesting that insider and outsider CEOs have a similar probability of engaging in earnings management activities. This finding undermines the alternative explanation that our main finding is driven by outsider CEOs who have taken a ‘big bath’ during the crisis.

### 3.3. Possible channels

We explore two channels through which an insider CEO could outperform an outsider CEO during the crisis: (i) cash holdings and (ii) internally promoted VPs. Prior research suggests that cash holdings help firms be resilient in a crisis (Zheng, 2021). When there is limited access to external financing, firms with high cash holdings can utilize their internal capital. We expect insider CEOs to allocate cash to value-enhancing projects more efficiently using their firm-specific knowledge and skills, resulting in greater outperformance by insider CEOs in firms with high cash holdings than in those with low cash holdings during the crisis. Another channel for insider CEOs may be crisis management assistance from internally promoted VPs, who understand the firm’s core competencies. VPs are more likely to assist insider CEOs because the practice of internal appointments supports them being in line for promotion, whereas they are less likely to cooperate with outsider CEOs because in-house candidates were passed over (Georgakakis and Buyl, 2020).

To test the cash holding channel, we create a dummy variable, *High Cash*, set to one if a firm’s cash to total assets in a quarter is

---

6 Our two size-related variables, *Firm Size* and *Revenue*, could be highly correlated. We re-run two regressions after including only one of these variables at a time and find the main results unchanged for both cases (unreported).

---

### Table 3

| VARIABLES | (1) Big Bath1 | (2) Big Bath2 | (3) Big Bath1 | (4) Big Bath2 |
|-----------|--------------|--------------|--------------|--------------|
| Insider CEO | −0.077 | −0.133 | −0.072 | −0.141 |
| Firm Size | 0.002 | −0.001 | −0.016 | −0.042 |
| Revenue | 0.101 | 0.587 | 0.102 | 0.586 |
| ROA | −0.021** | −0.021*** | −0.019** | −0.019*** |
| Stock Returns | −0.237*** | −0.579*** | −0.237*** | −0.577*** |
| Leverage | 0.444*** | 0.731*** | 0.438** | 0.740*** |
| Sales Growth | 0.019 | −0.011 | 0.020 | −0.006 |
| MB | −0.001 | 0.006 | −0.001 | 0.006 |
| Board Size | 0.075 | 0.113 | 0.075 | 0.113 |
| Female Director | 0.019 | 0.474 | (0.327) | 0.539 |
| CEO Age | 0.241 | 0.723 | (0.299) | 0.500 |
| CEO Tenure | −0.057* | −0.098** | (0.029) | 0.044 |
| CEO Duality | 0.013 | 0.118 | (0.064) | 0.119 |
| CEO Bod Expr | 0.074 | 0.093 | (0.068) | 0.102 |
| CEO Network | 0.018 | 0.073 | (0.027) | 0.047 |
| Constant | 1.079*** | −1.698*** | −0.059 | −5.192** |
| Industry FE | Yes | Yes | Yes | Yes |
| Quarter FE | Yes | Yes | Yes | Yes |
| Observations | 4525 | 4525 | 4525 | 4525 |
| Adj. R-Squared/ Pseudo R-Squared | 0.024 | 0.031 | 0.025 | 0.035 |

This table presents regression results on the association between insider CEO and big bath for the crisis period. Big Bath1 is the percentage of ‘special items’ to lagged total assets. Big Bath2 is a dummy variable equal to 1 if the percentage of ‘special items’ to lagged total assets exceeds one, and 0 otherwise. Other variables are defined in the Appendix. Heteroscedasticity-robust standard errors are in parentheses, clustered by firm. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.
greater than the industry median, and zero otherwise. To test the internal VPs channel, we calculate the percentage of VPs who are promoted internally (Internal VPs). VPs who worked for at least two years in prior positions in the firm are considered internal.\footnote{Due to data unavailability of all VPs’ prior positions, the sample for this test is restricted to 812 firm-quarter observations. The mean of Internal VPs dummy is 0.46 implying that 46\% of VPs are promoted within the firm.} We interact both variables with Insider CEO. The results for the crisis period are presented in Table 4. The coefficient of Insider CEO × High Cash in Column 1 is significantly positive. This implies that internal CEOs perform well with more cash on hand, consistent with our prediction. The coefficient of Insider CEO × Internal VPs in Column 2 is positive and significant, indicating that a higher proportion of internal VPs helps insider CEOs to perform better than externally hired CEOs.\footnote{We further explore two possible channels related to VP composition: long-tenured VPs and experienced VPs. We create two variables to capture this effect, VP Tenure (log of non-CEO executives’ average tenure) and VP Age (log of non-CEO executives’ average age) and interact them with the Insider CEO dummy. However, the results (unreported) for new interaction variables are not significant, indicating that VP team composition does not affect outperformance of insider CEOs during a time of crisis.}

4. Conclusion

We compare performance under insider and outsider CEOs during the Covid-19 crisis. Firms with insider CEOs outperformed firms with outsider CEOs by around 0.51\% in quarterly ROA. This finding supports the notion that insider CEOs possess deeper knowledge of core competencies that are instrumental to building resilience during a crisis. Additional tests show that insider CEOs outperformance occurs when firms hold more cash and have a higher proportion of internally promoted VPs.

Our main finding has implications for the board of directors when appointing a CEO. While it may be beneficial to have an outsider CEO in normal business conditions (e.g., Jalal and Prezas, 2012; Lauterbach et al., 1999), boards need to be aware that such benefits erode during times of crisis. Insider CEOs bring resilience during a crisis, leading to better performance.

CRediT authorship contribution statement

Md Reiazul Haque: Conceptualization, Data curation, Formal analysis, Writing – original draft. Bobae Choi: Project administration, Supervision, Writing – review & editing. Doowon Lee: Project administration, Supervision, Writing – review & editing. Sue Wright: Resources, Project administration, Supervision, Writing – review & editing.

Appendix. Definition of Variables

| VARIABLES                   | (1) ROA          | (2) ROA          |
|-----------------------------|------------------|------------------|
| Insider CEO                 | –0.001 (0.207)   | –0.208 (0.474)   |
| Insider CEO × High Cash     | 1.024*** (0.320) |
| Insider CEO × Internal VPs  |                  | 2.436** (1.116)  |
| High Cash                   | –1.931*** (0.312)|                  |
| Internal VPs                |                  | –1.680 (1.029)   |
| Other control variables     | Included         | Included         |
| Industry FE                 | Yes              | Yes              |
| Quarter FE                  | Yes              | Yes              |
| State FE                    | Yes              | Yes              |
| Observations                | 5196             | 812              |
| Adj. R-Squared              | 0.461            | 0.496            |

This table presents regression results on the potential channels through which insider CEO-led firms outperform outsider CEO-led firms for the crisis period. All variables are defined in the Appendix. ***, ** and * denote significance at the 1\%, 5\% and 10\% levels, respectively.
| Variable                  | Definition                                                                 |
|--------------------------|---------------------------------------------------------------------------|
| ROA                      | Firm ROA (net profit/total assets) minus average ROA of all firms in a given industry-quarter (source: FactSet) |
| Tobin’s q                | Firm Tobin’s q [(market value of equity + book value of debt)/total assets] minus average Tobin’s q of all firms in a given industry-quarter (source: FactSet) |
| Crisis                   | Dummy variable set to 1 for firm-quarters in 2020, and 0 for firm-quarters in 2019. |
| Firm Size                | Log of total assets (source: FactSet)                                      |
| Cash                     | Cash/total assets (source: FactSet)                                        |
| Leverage                 | Total debt/total assets (source: FactSet)                                  |
| R&D                      | Research and development expense/total sales (source: FactSet)             |
| Capex                    | Capital expenditure/total assets (source: FactSet)                         |
| Board Size               | Log of number of directors on board (source: BoardEx)                      |
| Female                   | Number of female directors/total number of directors (source: BoardEx)      |
| Director                 | Log of CEO age (source: BoardEx)                                           |
| CEO Age                  | Log of number of years since the CEO took office (source: BoardEx)          |
| CEO Duality              | Dummy variable equal to 1 if the CEO is also the chair of the board, and 0 otherwise (source: BoardEx) |
| CEO Bod Expr             | Log of number of quoted boards a CEO served previously (source: BoardEx)    |
| CEO Network              | Log of CEO’s network size (source: BoardEx). This measures the network size of individual CEO, which is based on the number of overlaps in current and past employment, education, and other activities such as memberships of clubs and social organizations. |
| Big Bath1                | Percentage of ‘special items’ to lagged total assets (source: Compustat)    |
| Big Bath2                | Dummy variable equal to 1 if the percentage of ‘special items’ to lagged total assets exceeds one, and 0 otherwise (source: Compustat) |
| Revenue                  | Log of total sales (source: FactSet)                                       |
| Stock Returns            | Log (quarter-end market price divided by the last quarter-end market price) (source: FactSet) |
| Sales Growth             | (Sales in one quarter minus sales in previous quarter)/sales in previous quarter (source: FactSet) |
| MB                       | Market value of equity to book value of equity (source: FactSet)            |
| High Cash                | Dummy variable equal to 1 if a firm’s cash to total assets in a quarter is greater than the industry median, 0 otherwise (source: FactSet) |
| Internal VPs             | Percentage of VPs who are promoted internally, where VPs who worked for at least two years in the firm prior to their current position are considered as internal (source: BoardEx) |

References

Campello, M., Graham, J.R., Harvey, C.R., 2010. The real effects of financial constraints: evidence from a financial crisis. J. Financ. Econ. 97 (3), 470–487.

Cannella Jr, A.A., Lubatkin, M, 1993. Succession as a sociopolitical process: internal impediments to outsider selection. Acad. Manage. J. 36 (4), 763–793.

Castanias, R.P., Helfat, C.E., 1991. Managerial resources and rents. J. Manage. 17 (1), 155–171.

Cummings, T., Knott, A.M., 2018. Outside CEOs and innovation. Strat. Manage. J. 39 (8), 2095–2119.

Datta, D.K., Guthrie, J.P., 1994. Executive succession: organizational antecedents of CEO characteristics. Strateg. Manage. J. 15 (7), 569–577.

Georgakakis, D., Buyt, T., 2020. Guardians of the previous regime: post-CEO succession factional subgroups and firm performance. Long Range Plann. 53 (3), 101971.

Georgakakis, D., Greve, P., Ruigrok, W., 2017. Top management team faultlines and firm performance: examining the CEO-TMT interface. Leadersh Q. 28 (6), 741–758.

Haggard, K.S., Howe, J.S., Lynch, A.A., 2015. Do baths muddy the waters or clear the air? J. Account. Econ. 59 (1), 105–117.

Hope, O.-K., Wang, J., 2018. Management deception, Big-Bath accounting, and Information asymmetry: Evidence from Linguistic Analysis, 70. Accounting, Organizations and Society, pp. 33–51.

Jalal, A.M., Prezas, A.P., 2012. Pay inequalities and managerial turnover. J. Empir. Finan. 27, 21.

Kale, J.R., Reis, E., Venkateswaran, A., 2014. Pay inequalities and managerial turnover. J. Empir. Finan. 27, 21–39.

Karasev, A., Zajac, E.J., 2012. When is an outsider CEO a good choice? MIT Sloan Manage. Rev. 53 (4), 15–17.

Lauterbach, B., Vu, J., Weisberg, J., 1999. Internal vs. external successes and their effect on firm performance. Hum. Relat. 52 (12), 1485–1504.

Murphy, K.J., & Zabojnik, J. (2007). Managerial capital and the market for CEOs. Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=984376.

Quigley, T.J., Harm, D.C., Misangyi, V.F., Rizzi, G.A., 2019. CEO selection as risk-taking: a new vantage on the debate about the consequences of insiders versus outsiders. Strat. Manage. J. 40 (9), 1453–1470.

Ridge, J.W., Aime, F., White, M.A., 2015. When much more of a difference makes a difference: social comparison and tournaments in the CEO’s top team. Strat. Manage. J. 36 (4), 618–636.

Scheper, D.J., Kim, Y., Patel, P.C., Thatcher, S.M., Campion, M.C., 2017. CEO succession, strategic change, and post-succession performance: a meta-analysis. Leadersh. Q 28 (5), 701–720.

Zhang, Y., Rajagopalan, N., 2004. When the known devil is better than an unknown god: an empirical study of the antecedents and consequences of relay CEO successions. Acad. Manage. J. 47 (4), 483–500.

Zhang, Y., Rajagopalan, N., 2010. CEO succession planning: finally at the center stage of the boardroom. Bus Horiz 53 (5), 455–462.