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# **The disciplinary role of unsuccessful takeovers and changes in corporate governance**

## **Abstract**

This study examines if unsuccessful takeovers trigger the replacement of directors and changes in other governance attributes and result in improvements in target firm performance. Using an Australian sample this study finds that following failed bids, target firms are more likely to remove directors and experience an increase in director ownership, board independence, and block ownership. In contrast, target firm director expertise and prestige decrease following failed bids. We also find that post-bid accounting and stock performance of targets are largely unrelated to changes in governance attributes after the unsuccessful takeover.

**Keywords:** Unsuccessful takeovers, corporate governance, director turnover, firm performance

**JEL Classification:** J33, M41

## 1. Introduction

Corporate takeovers are often viewed as a “last resort” governance mechanism, which facilitates the replacement of underperforming or opportunistic managers (Eckbo, 2014). However, takeover bids are not always successful and often fail for various reasons, including target management resistance (Wong and O’Sullivan, 2001). An extensive literature investigates unsuccessful takeovers and shows that target firms experience increased CEO turnover after failed bids (Denis and Serrano, 1996; Liu, 2016; Safieddine and Titman, 1999; Tannous and Cheng, 2007). Collectively, the findings indicate that unsuccessful takeovers potentially provide a “wake-up call,” triggering governance mechanisms to replace incumbent CEOs (Liu, 2016).

Whilst corporate governance is one of the most widely researched topics in mergers and acquisitions (Aktas *et al.* 2016; Cumming *et al.* 2023), it is surprising that there is little evidence regarding changes in governance attributes beyond CEO turnover after unsuccessful takeovers and whether these changes contribute to improved firm performance. This study fills this void in the literature and examines the impact of unsuccessful takeovers on target firm governance attributes beyond CEO turnover. These governance characteristics include turnover in target firm directors, changes in director experience and reputation, and changes in ownership structure. We also examine the impact of these changes in target firm governance on firm performance after an unsuccessful takeover.

Our analysis uses a comprehensive sample of unsuccessful takeovers in Australia between 2004 and 2017. We use Australian data for three reasons. First, the frequency of unsuccessful takeovers is substantially higher in Australia compared to the UK and US. For example, Bugeja *et al.*, (2019) document that over 33% of Australian takeovers from 2000 to 2011 were unsuccessful, compared to about 25% in the US between 1985

and 2008 (Liu, 2016) and 18% in the UK from 1989 to 1995 (O’Sullivan and Wong, 1998).<sup>1</sup> Second, the rate of hostile bids in Australian takeover transactions is significantly higher than other developed markets. Extant evidence shows that around 2% to 4% of takeovers are hostile in the US (Heitzman, 2011; Lin *et al.* 2011), while we find that more than 11% of Australian mergers and acquisitions (M&A) transactions in the Connect 4 Mergers and Acquisitions database are hostile. The prevalence of unsuccessful takeovers and hostile bids in Australia indicates that unsuccessful takeovers are more likely to serve as a “wake-up call” that potentially leads to subsequent improvements in corporate governance and firm performance. Third, non-executive directors on average constitute 67% of Australian boards (Monem and Ng, 2013). The prominence of boards with non-executive directors in the Australian setting therefore allows us to provide additional insights about director turnover in target firms following unsuccessful takeovers.

We first examine director turnover following unsuccessful takeovers. Prior studies conjecture that unsuccessful bids are often viewed as an indicator of management entrenchment within target firms and lead to increased CEO turnover (Jensen and Ruback, 1983; Jensen and Warner, 1988). Consistent with this view, to the extent that unsuccessful takeovers signal ineffective monitoring by target firm directors, underperforming directors are expected to be dismissed and replaced post-bid.

We acknowledge that unsuccessful takeovers are not random events and are subject to endogenous selection (Liu, 2016). We address endogeneity by comparing director turnover and governance changes in unsuccessful targets to two control groups. The first control group is the target firm during the pre-bid period. For the second

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<sup>1</sup> Consistent with Bugeja *et al.*, (2019), we find that withdrawn and unsuccessful takeovers in Australia account for over 30% of takeover bids during the period 2004–2017.

control group, we use a propensity score matched (PSM) sample of non-target firms and compare their governance changes with target firms in the post-bid period.

Using these two control groups, we find evidence consistent with the disciplinary role of unsuccessful takeovers in removing directors. Target firms are approximately 33% more likely to replace at least one of their directors following unsuccessful takeover bids compared to the pre-bid period, and 43% higher than the PSM matched non-target firms during the same period. In terms of the proportion of directors replaced, the percentage of dismissed directors is 29.1% higher than pre-bid target firms and 25.4% higher than PSM matched firms during the post-bid period. In additional testing, we also find that higher director turnover exists for both executive and non-executive directors.

We then examine whether there is any improvement in board quality in the post-bid period. Under the reputation hypothesis (Fama, 1980), incumbent directors are concerned about reputation damage and possible disadvantageous career outcomes following negative corporate events, such as accounting fraud and irregularities, bankruptcy, and proxy contests (Fich and Shivdasani, 2007; Gilson, 1990; Harford, 2003; Kaplan and Reishus, 1990; Srinivasan, 2005). To the extent that unsuccessful takeover bids signal underperforming management and weak corporate governance in the pre-bid period (Liu, 2016), experienced and competent directors are more likely to leave target firms or avoid joining these boards to avoid extra workload, higher litigation risk, and further reputation damage (Dou, 2017; Fahlenbrach *et al.* 2010; Gao *et al.* 2016).

On the other hand, firms that experience negative events have strong incentives to improve their governance (Farber, 2005) and are expected to hire more experienced directors who better understand their roles (Kroll *et al.* 2008) and business situations

(Westphal and Milton, 2000). Thus, newly appointed directors can be more competent and experienced, as long as the benefits of the appointment (e.g., higher compensation and unique directorship experience) outweigh the potential reputational and litigation costs (Ghannam *et al.* 2019). Therefore, it remains an empirical question of whether the target firms' board quality improves or deteriorates following an unsuccessful takeover.

To test these two competing views, we use director expertise and prestige to capture the quality and capacity of the board of directors. Compared to the pre-bid period, we find that both target director expertise and prestige decline significantly following unsuccessful takeover bids. This finding indicates that experienced directors and those serving in outside prestigious firms are more likely to leave the board of target firms and are likely to be unwilling to join target firms in the post-bid period, resulting in a significant reduction in both director experience and prestige.

Next, we explore whether unsuccessful target firms experience a significant change in other governance attributes. Like other corporate events, such as corporate turnarounds (Miglani *et al.* 2020), we expect that corporate governance strengths and the alignment of interests between shareholders and management improve after failed takeovers. Consistent with this notion, we find that, compared to the pre-bid period (PSM-matched control firms), director ownership in the target firms increases by 4.6% (4.8%), indicating a better alignment of directors' interests with shareholder value (Jensen and Meckling, 1976). We also find that block ownership in target firms rises by 6.1% (11.6%) compared to the pre-bid period (PSM-matched control firms), implying stronger disciplining from large shareholders. In addition, the proportion of independent directors on target boards increases by 8.2%, suggesting enhanced board monitoring among target firms.

Finally, we examine whether director turnover and governance changes lead to improvements in firm performance post-bid. More effective corporate governance, as reflected in higher board independence, block ownership and director expertise and prestige can better align the interests of shareholders and management, reduce agency costs, and enhance firm performance (Denis and McConnell, 2003; Jensen and Murphy, 1990; Masulis and Mobbs, 2014; Rutherford and Buchholtz, 2007). Moreover, higher director ownership in a firm aligns directors' interests with shareholder value and is expected to lead to a greater engagement in value-creating activities, thereby improving firm performance (Parker *et al.* 2002). Our results show that unsuccessful takeovers post-bid stock performance is higher when there is an increase in director prestige. However, we find no significant evidence that post-bid target firm performance is related to changes in other governance attributes.

This study makes several contributions. First, our study contributes to prior literature examining the effects of unsuccessful takeovers. Prior research documents that unsuccessful takeovers lead to higher CEO turnover (Bates and Becher, 2017; Denis and Serrano, 1996; Liu, 2016; Mikkelsen and Partch, 1997; Tannous and Cheng, 2007), an increase in financial leverage and the use of bank debt (Jandik and Makhija, 2005; Safieddine and Titman, 1999), and influence strategic investment decisions (Heyden *et al.* 2014) and firm spin-offs and divestitures (Chatterjee *et al.* 2003). Given that unsuccessful takeover bids are often viewed as an indicator of management entrenchment, our study differs to prior research and focuses on governance changes in target firms beyond CEO turnover (e.g., director expertise and prestige, board independence and ownership, and block ownership) that may enhance governance structure and monitoring efficiency in the post-bid period. Moreover, if takeovers are a result of a monitoring failure, one way of resolving this is to remove the "poor"

monitors. The impact of unsuccessful takeovers on non-executive director turnover is directly examined in this study and has not been addressed in prior literature (Chatterjee *et al.* 2003; Chatterjee *et al.* 2010; Heyden *et al.* 2014; Kini *et al.* 2004; Li *et al.* 2022; Liu, 2016; Tannous and Cheng, 2007; Wiesenfeld *et al.* 2008).

Second, we add to prior governance research that examines how firm governance changes following takeovers. Whilst recent evidence shows that cross-border mergers have spillover effects on corporate governance in other firms in a successful target's home country (Albuquerque *et al.*, 2019; Drobatz and Momtaz, 2020b), the relation between governance changes and the post-bid accounting and stock performance in unsuccessful target firms is underexplored. Our analysis adds to earlier evidence on the effect of CEO turnover and the change in leverage on target firm performance in the post-bid period. Safieddine and Titman (1999) find that unsuccessful takeover targets that increase financial leverage have better performance after the bid. In contrast, Jandik and Makhija (2005) document that leverage changes after unsuccessful takeovers reduce firm performance. In addition, Denis and Serrano (1996) document evidence of improved operating performance following unsuccessful bids when the CEO is replaced, while Malmendier *et al.* (2016) find no evidence that changes in future operating performance indicate management entrenchment (e.g., the payment method of takeover bids) or bid quality. Our study differs from these studies in that we examine whether director turnover and changes in broader governance attributes, as opposed to CEO turnover, contribute to an improvement in the target's accounting and share price performance.

Third, unlike prior research on unsuccessful takeovers, we address the endogenous nature of takeovers using both PSM and the target firm in the pre-bid period as its own control. A limitation with much of the earlier research on unsuccessful



takeovers is that these studies have either not addressed endogeneity (Chatterjee *et al.* 2003) or have employed control groups created on only a limited number of covariates such as size, industry and the market-to-book ratio (Heyden *et al.*, 2014; Lin *et al.*, 2022; Liu, 2016; Tannous and Cheng, 2007). By employing multiple techniques to address endogeneity the results in our study are less likely to be subject to endogeneity concerns.

Finally, our study adds to prior literature that examines governance changes following negative corporate events. Previous studies offer two competing explanations regarding director departure and appointment when a firm experiences a negative event. On the one hand, directors may avoid joining a board following a negative event due to the concern of reputational damage (Fahlenbrach *et al.* 2010; Gao *et al.* 2016). On the other hand, firms that critically require governance reform are likely to offer “olive branches” to attract competent and experienced directors (Ghannam *et al.* 2019). Our findings complement these studies and suggest that unsuccessful targets experience a reduction in board expertise and prestige in the post-bid period, indicating that these firms are unable to attract higher quality directors after unsuccessful takeovers.

The remainder of the study is organised as follows. Section 2 reviews the literature and develops hypotheses whilst Section 3 outlines the data and sample. Section 4 details the research design and presents the main empirical results and section 5 discusses additional tests. Section 6 concludes the paper.

## **2. Literature review and hypothesis development**

### **2.1 Unsuccessful takeovers and their impact on corporate performance**

The role of corporate governance on the takeover process and outcomes is extensively studied in prior research (Eckbo, 2008; Eckbo, 2014; Aktas *et al.* 2016;

Cumming *et al.* 2023).<sup>2</sup> Early research mainly focuses on the UK and US, since they have the most active takeover markets. One important stream of research examines takeover motives and documents inconclusive empirical evidence (Holl and Pickering, 1988; Powell, 1997; Wong and O’Sullivan, 2001). On the one hand, takeover activities may facilitate synergy (Bradley *et al.* 1983), create value for shareholders and the economy (Chatterjee, 1992), and lead to higher bidding firm returns in the presence of acquiring firm anti-takeover provisions (Drobotz and Momtaz, 2020a). On the other hand, it is found that managers engaging in takeovers may pursue their personal interests (Malatesta, 1983), which intensifies the agency conflict between shareholders and management and damages shareholder welfare (Fama and Jensen, 1983). As highlighted by Aktas *et al.*, (2016) it is the role of the board of directors to monitor target and bidding firm management to minimise agency conflicts during takeovers. When managers pursue self-interest or underperform, takeovers may be used as the ‘courts of last resort’ to discipline and remove ineffective management (Manne, 1965).

However, takeovers do not always succeed, and the likelihood of unsuccessful takeovers is nontrivial. O’Sullivan and Wong (1998), using a UK sample, find that more than 18% of takeovers between 1989 and 1995 fail. Recent US research also documents that around 25% of US takeovers from 1985 to 2008 were unsuccessful (Liu, 2016). In the Australian context, Bugeja *et al.*, (2019) find that the failure rate of takeover bids in Australia is significantly higher than those in the UK and US, with over 33% of bids from 2000–2011 being unsuccessful.

There are various reasons why takeover bids fail, and these are linked to the different motives for takeovers (Berkovitch and Narayanan, 1993). For example,

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<sup>2</sup> Aktas *et al.*, (2016) provide a detailed review of evidence on how target and bidding firm corporate governance from internal and external sources impacts takeover outcomes and processes.

managers may act in shareholders' interests and resist a bid, aiming to solicit a future bid with a higher price (Bates and Becher, 2017; Schwert, 2000). However, unsuccessful takeovers are more likely to be considered a byproduct of managerial entrenchment (Jensen and Ruback, 1983; Jensen and Warner, 1988), where self-interested management adopts bid resistance strategies or refuse takeover bids that threaten their position and power to the detriment of target shareholders' interests.

In addition, extensive studies investigate the impact of unsuccessful takeover bids on target firm performance during the post-bid period. For example, Croci (2006) finds insignificant abnormal returns for target firms after unsuccessful takeovers. Heyden et al. (2014) use a matched sample of 71 failed US takeover attempts and examine how retained CEOs allocate investments following failed bids. They document a nonlinear relation between the degree of uncertainty of expected returns and target CEOs' tenure in the aftermath of failed bids. Jandik and Makhija (2005) consistent with the view of managerial entrenchment, document a negative association between leverage and the post-bid performance of the target firm.<sup>3</sup> In addition, different payment methods in takeover bids result in not only differentiated returns (Rhodes-Kropf and Viswanathan, 2004; Shleifer and Vishny, 2003) but also different levels of target firm revaluation in the post-bid period. For example, after failed takeover attempts, targets of cash bids are revalued to a greater extent than those with stock offers (Malmendier *et al.* 2016). The link between governance and performance changes after unsuccessful takeover bids is largely unexamined in prior research.

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<sup>3</sup> Chatterjee *et al.*, (2003) find that unsuccessful targets with higher pre-bid insider holdings are more likely to undertake spin-offs or sales of divisions in the four years post-takeover.

## 2.2 Management and director turnover in the post-bid period

Prior studies document that completed takeover transactions lead to management and director turnover in target firms (Franks and Mayer, 1996; Kini *et al.* 1995; Martin and McConnell, 1991; Walsh, 1988). Walsh (1988) provides evidence regarding target management turnover after completed US takeover deals and documents that, from 1975 to 1979, the turnover of target firm management is significantly higher than for non-target firms, with a ratio of 59% in the fifth year following takeovers. Agrawal and Walkling (1994) investigate Forbes 800 firms that became targets from 1980 to 1986 and find that target CEOs are more likely to be replaced following successful bids.

For unsuccessful takeovers, previous studies also document elevated top management turnover following failed bids. For example, Franks and Mayer (1996) use a sample of 20 failed UK hostile bids from 1985 to 1986 and find that CEO turnover is around 39% within two years. Denis and Serrano (1996) provide US evidence of CEO turnover following failed takeovers and report a turnover rate of 34%, which almost doubles the turnover rate in non-target firms. Similarly, Safieddine and Titman (1999) examine a large sample of 573 failed bids in the US and confirm a 32% CEO turnover rate. Liu (2016) tests a sample of 389 US target firms from 1985 to 2008 and documents abnormally high CEO turnover compared to non-target firms. Tannous and Cheng (2007) also find higher rates of target CEO turnover in Canadian failed bids.

Evidence of increased management turnover following failed takeovers is consistent with the notion that unsuccessful takeover bids are a signal of managerial entrenchment (Jensen and Ruback, 1983; Jensen and Warner, 1988). Accordingly, ineffective top management is replaced after failed takeovers. Likewise, if failed takeovers signal ineffective monitoring provided by underperforming directors, those directors are expected to be disciplined and removed from the target board in the post-

bid period. There is scant evidence on whether and the extent to which unsuccessful target directors are replaced. The exception is Bugeja *et al.*, (2009), who provide small sample evidence of target director turnover following failed Australian takeovers. They identify 733 directors from 135 unique target firms from 2000 to 2002 and document a 66% turnover rate for directors after unsuccessful bids.

This study first examines director turnover as a governance mechanism within unsuccessful target firms during the post-bid period by using a comprehensive and large sample of Australian takeovers. Based on the above discussion, we predict that consistent with takeovers acting as a disciplining mechanism that target director turnover increases after an unsuccessful takeover. This leads to the following hypothesis:

H1: *Target firms are more likely to replace directors following unsuccessful takeovers.*

### **2.3 Changes in director expertise and prestige in the post-bid period**

If there is a higher likelihood of director turnover following takeover bids, the composition of target boards is expected to change. However, to our knowledge, there is no prior evidence of changes in board characteristics (e.g., director expertise and prestige) that proxy for governance capacity and board effectiveness after failed takeovers. Whilst prior studies have examined the influence of various governance characteristics on several outcomes following failed takeovers, it is puzzling that the governance characteristics are measured *before* the takeover announcement (Chatterjee *et al.*, 2003; Heydon *et al.*, 2014; Lin *et al.*, 2022), rather than in the post- bid period. As unsuccessful takeovers are likely to be associated with changes in firm governance attributes, it is important that governance characteristics are measured after the unsuccessful takeover.

Under the reputation hypothesis, directors have strong incentives to maintain their reputation in the labor market (Fama, 1980). Directors are likely to experience reputation damage and detrimental career outcomes after experiencing adverse events during their appointment, such as financial fraud, accounting irregularities, bankruptcy, dividend cuts, and proxy contests (Fich and Shivdasani, 2007; Gilson, 1990; Harford, 2003; Kaplan and Reishus, 1990; Srinivasan, 2005). Accordingly, directors leave or avoid joining a firm after adverse events to avoid extra workload, higher litigation risk, and further reputation damage (Dou, 2017; Fahlenbrach *et al.* 2010; Gao *et al.* 2016). Moreover, directors with reputational concerns are more willing to work for prestigious and profitable firms to establish better reputations and enjoy greater reputational benefits (Boivie *et al.* 2012; Fahlenbrach *et al.* 2010; Masulis and Mobbs, 2014).

However, a competing explanation is that firms that experience negative events have a strong need for improved governance mechanisms (Farber, 2005) and are expected to invite experienced directors who have a better understanding of their roles (Kroll *et al.* 2008) and business situations (Westphal and Milton, 2000) to join the board. Thus, competent and experienced directors may choose to trade the higher reputation costs, litigation risks, and additional effort they need to exert during their appointment for the benefits offered by taking board seats in firms with damaged reputations. In support of this argument, Ghannam *et al.*, (2019) present evidence that newly appointed directors' trade-off the tarnished reputation of fraudulent firms for other potential benefits, such as higher compensation and the unique experience provided by their appointment.

Unsuccessful takeovers provide an ideal setting to investigate whether director expertise and prestige improves or worsens in the post-bid period. To the extent that a failed takeover implies underperforming management and weak corporate governance

in the pre-bid period (Liu, 2016), it is expected that failed bids affect directors' departures and appointments similar to other adverse events. On the one hand, according to the reputation hypothesis, experienced and competent directors on the board are more likely to leave target firms of unsuccessful takeovers to prevent their reputation from being tarnished. In addition, directors pursuing employment may refrain from joining target boards after a failed takeover bid due to increased workload and negative reputation effects. On the other hand, to the extent that the benefits provided by appointment to the target boards (unique experience and higher compensation) outweigh the potential costs in the post-bid period, qualified and experienced directors are incentivised to join the firm following unsuccessful takeovers, which could increase the level of directors' expertise and prestige in the post-bid period. Given the competing explanations of possible changes in director expertise and prestige, we state the following hypothesis in the null form:

*H2: There is no change in director expertise and prestige following unsuccessful takeovers.*

#### **2.4 Other governance changes in the post-bid period**

In the context of corporate turnarounds, prior studies identify various forms of effective governance (Miglani, 2014; Miglani *et al.* 2020; Mueller and Barker, 1997). For example, Miglani *et al.* (2020) document that, following poor performance, firms adopting successful turnaround strategies have higher director and block ownership and more independent directors on the board. In fact, prior research documents that agency problems are mitigated when contracts are structured efficiently between directors and shareholders, as directors with higher ownership are motivated to act in the interests of shareholders (Jensen and Meckling, 1976). In addition, large shareholders may not only discipline managers and incumbent directors but also create a direct "channel" to

implement their strategies by appointing directors to the board (Becht *et al.* 2003). Furthermore, the appointment of outside directors provides independent oversight and monitoring which reduces agency costs (Fama and Jensen, 1983). More board independence also strengthens the efficaciousness of the boards (Lorsch, 1989; Zahra and Pearce, 1989) and enhances the quality of information provided by the board (Rutherford and Buchholtz, 2007).

In the context of cross-border mergers and acquisitions, prior evidence is consistent with M&As improving corporate governance in the host country that receives foreign direct investment. For example, Albuquerque (2018) finds an improvement in host country corporate governance after successful cross-border M&As. This effect is greater when the bidding firm's country has higher investor protection and the target firm's industry is more competitive. Moreover, Drobetz and Momtaz (2020b) document that cross-border M&As within Europe lead to improvements in shareholder rights.<sup>4</sup>

To the extent that the target firm changes board composition after failed takeover bids, they are expected to experience changes which improve governance and board monitoring. This expectation is consistent with takeovers acting as a "wake-up" call (Eckbo, 2014) and with the governance improvements documented in corporate turnaround following poor performance (Migliani *et al.*, 2020). Accordingly, during the post-bid period, target directors are expected to own a higher proportion of target shareholdings, representing a better alignment between shareholder value and director personal interests. Target firms are also expected to add more independent directors to the board in the post-bid period. Since large shareholders play an active role in

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<sup>4</sup> A meta-analysis of how the target firm country legal institutions impact cross-border M&A intensity and premiums is undertaken in Brada and Iwasaki (2023).



disciplining managerial discretion, the size of block ownership is also expected to increase after unsuccessful takeovers. Thus, the hypothesis is presented as follows:

*H3: Director ownership, block ownership, and board independence in target firms increase after unsuccessful takeovers.*

## **2.5 Governance changes and post-bid target firm performance**

Effective corporate governance better aligns the interests of shareholders and management, reduces agency costs, and enhances firm performance (Jensen and Murphy, 1990). Directors whose interests are aligned with shareholders have a greater commitment to engage in value-creating activities and improve firms' performance (Parker *et al.* 2002). Large shareholders, given their substantial shareholdings, have strong motivation to monitor firm performance (Denis and McConnell, 2003) and increase pressure on the board and top management to facilitate restructuring (Bethel and Liebeskind, 1993). Prior evidence also indicates that directors holding more prestigious directorships are associated with higher performance (Masulis and Mobbs, 2014). Further, firms are more likely to appoint independent directors after experiencing poor performance (Hermalin and Weisbach, 1988), since a more independent board oversees and constrains the decisions of self-interested management, thereby reducing agency conflicts and improving firm performance (Rutherford and Buchholtz, 2007).

Consistent with these arguments, Miglani et al. (2020) examines how changes in ownership and governance attributes facilitate managerial decision-making and boost firm performance around corporate turnarounds. Specifically, they document a positive relation between enhanced corporate governance for turnaround firms and subsequent firm performance. Applying this evidence in the context of unsuccessful takeovers, we also examine whether changes in corporate governance lead to performance

improvements among target firms post-bid. We expect that unsuccessful target firms with improved governance mechanisms engage in value-creating activities, which enhances firm value and increases shareholder welfare in the post-bid period. This leads to the following hypothesis:

*H4: Target firms' post-bid accounting and stock performance are positively associated with director turnover and governance changes following unsuccessful takeovers.*

### **3. Data and sample**

#### **3.1 Sample selection and data**

We obtain data on takeovers for listed target firms on the Australian Securities Exchange (ASX) from the Connect 4 Mergers and Acquisitions database. The number of takeovers announced between January 1, 2004 and December 31, 2017 is 1,117, among which 757 successful takeovers are identified and excluded. We also remove 120 target firms that have been involved in a competing successful bid. We further exclude 6 takeovers which were only takeover rumors or partial takeover attempts, and 22 takeover bids in which there were multiple unsuccessful bidders within six months. Finally, we exclude 43 target firms with missing governance or financial data required to estimate the regression models. This results in a final sample of 167 unsuccessful takeovers. Table 1 outlines the sample construction.

[Insert Table 1 Here]

Panel A of Table 2 demonstrates the frequency of unsuccessful takeovers partitioned by year. The percentage of unsuccessful takeovers varies substantially across years, ranging from a low of 1.20% in 2005 to a high of 15.57% in 2009. We also present the industry distribution of failed takeover bids in Panel B of Table 2, based on two-digit Global Industry Classification Standard (GICS) codes. We find that

approximately 37% and 20% of unsuccessful transactions are carried out in the materials and energy industries, respectively.

[Insert Table 2 Here]

We obtain financial and corporate governance data from several sources. First, we obtain director-level data from the Connect 4 Boardroom database, which includes directors' names, age, gender, position, shareholdings, etc. Second, we acquire block ownership data from the SIRCA Corporate Governance database. Third, as more than half of the corporate governance data in the sample is not readily available in either the Boardroom or SIRCA databases, we manually collect missing data from target firms' annual reports, available on either the Morningstar DataAnalysis Premium database or the ASX website. Governance and ownership data at the takeover announcement date are manually collected from the target statements available in the Connect 4 Mergers and Acquisitions database. Finally, financial data is obtained from the Morningstar DataAnalysis Premium database. To remove the effect of outliers, we winsorize all continuous variables at the 2.5% level at both tails of their distributions (Henry and Koski, 2017; Maffett, 2012). All variables are defined in Appendix A.

### **3.2 Control groups**

Because unsuccessful takeovers are not random events, it is important to control for the endogenous nature of failed bid. We address endogeneity by employing two control groups using a difference-in-differences (DiD) design to examine director turnover and governance changes within target firms during the post-bid period. Our study differs from many prior studies on unsuccessful takeovers, which have either not addressed endogeneity (Chatterjee *et al.*, 2003) or only used a matched control group constructed using a limited number of covariates (Liu, 2016).

First, we compare pre-bid target director turnover in the target firm with the post-bid period. In other words, we use the target firm during the pre-bid period as its own control to examine whether the director turnover rate changes significantly during the post-bid period. The year that unsuccessful takeovers take place is  $t$ . The composition of the target board in year  $t$  is obtained from takeover statements lodged by target firms. For the control sample period, we measure the director turnover for target directors pre-bid by comparing directors on the board three years before the failed takeover attempt (year  $t - 3$ ) with board composition disclosed in year  $t - 1$  that is at least three months before the announcement date.<sup>5</sup> For the post-bid period, we measure director turnover by comparing directors on the board at the takeover announcement date (year  $t$ ) with that disclosed in the first financial statement issued at least 24 months after the date of the announcement (year  $t + 2$ ).<sup>6</sup> The two-year post-bid period is longer than the period used by Harford (2003) and provides a more reasonable time period to measure the occurrence of changes in board appointments. This length of time is consistent with the two-year post-bid period employed in Bugeja *et al.*, (2009) and prior research on management turnover in the US (Denis and McConnell, 2003) and the UK (Franks and Mayer, 1996). Figure 1 illustrates the process of measuring director turnover before and after takeover bids. A similar process is used to measure the changes in other target firm governance variables (i.e., director prestige and reputation, board independence, and director and block ownership) pre- and post- bid.

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<sup>5</sup> Assuming a takeover announcement date is February 15, 2015 and the target having a June 30 balance date, we measure pre-bid turnover by comparing the composition of the target board disclosed in the financial statements issued on June 30, 2012 and June 30, 2014. However, when it comes to firms with a December 31<sup>st</sup> financial year-end, we look at directors on the board one year before to ensure that the annual report date is more than three months prior to the takeover announcement date. For instance, if the annual report date is December 31, 2014, we go back to December 31, 2013 to collect information about board composition for the control group in year  $t - 1$ .

<sup>6</sup> Similarly, when the announcement date is February 15, 2015, with a June 30 balance date, we use the board composition disclosed in financial statements issued on June 30, 2015 and June 30, 2017 (i.e., the first financial statement issued at least 24 months after the failed takeover attempt) to determine director turnover post-bid.

[Insert Figure 1 Here]

Second, we compare target firms to a PSM matched sample of non-target firms.<sup>7</sup> To estimate the PSM control group, multiple firm-specific governance and financial variables are employed in a first-stage logit regression model predicting takeover targets. These variables include: *Director Ownership*, *Block Ownership*, *Board Independence*, *Director Tenure*, *CEO Duality*, *Board Size*, *Female Director*, *CEO Turnover*, *Firm Size*, *Leverage*, *Market-to-Book*, *Operating Cash Flow*, *Sales*, and *Return-on-Assets*.<sup>8</sup> The regression results of the first-stage model are shown in Panel A of Table 3.

The matching process enables us to identify a sample of 156 matched non-target firms for 167 target firms. Panel B of Table 3 compares the characteristics of the target firms with those of the PSM-matched control sample. The difference in governance and financial characteristics between target firms and the matched sample are statistically insignificant.

[Insert Table 3 Here]

We compare director turnover and changes in the other governance variables between the takeover announcement date and year  $t + 2$  for the target firm with those in the PSM control firm. The information about board composition and firm governance in year  $t + 2$  is obtained from either the Connect 4 Boardroom Database or annual reports issued in the financial year-end at least 24 months after the takeover announcement date. This procedure is illustrated in Figure 2.

[Inset Figure 2 Here]

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<sup>7</sup> We employ one-to-one propensity score matching method without replacement to match target and non-target firms using the nearest neighbor method. This method ensures that one treatment observation is matched to one control observation, and each control observation is matched once only.

<sup>8</sup> It is not possible to control for institutional ownership and corporate governance indices (e.g., E-index) in the first-stage model as these variables are not readily available in Australia.

## 4. Empirical results

### 4.1 Summary statistics and univariate analysis

Table 4 presents descriptive statistics for the governance and financial variables in the post-bid period. The average director turnover rate indicates that 85% of firms experience the change of at least one director. The proportion of replaced directors is 50.8%, suggesting over half of the directors are replaced after unsuccessful bids. The average change in board independence, director ownership, and block ownership varies from 3.6% to 9.4%.

[Insert Table 4 Here]

We conduct univariate tests of differences between the treatment group and the two control groups. First, we report governance and financial characteristics for the target firms before and after unsuccessful bids in Panel A of Table 5. Target firms have a significantly higher likelihood of director turnover and are more likely to remove a higher proportion of directors following unsuccessful takeovers. Specifically, the pre-bid director turnover rate is 43.7%, compared to 85% in the post-bid period. Further, the proportion of directors replaced prior to unsuccessful takeovers is 18.5%, while the proportion of replacements after the bid is 50.8%. Governance attributes, including block ownership (46.5%) and board independence (51.1%), see a statistically significant increase in the post-bid period. In contrast, we find that the mean values of the financial characteristics of target firms are not significantly different between the pre- and post-bid period. In addition, we find no significant difference in *Director Tenure*, *CEO Duality*, *Board Size*, the proportion of female directors (*Female Director*), or *CEO Turnover* between the pre- and post-bid periods.

Panel B of Table 5 compares the target firms and the PSM matched sample in the post-bid period. We find that non-target director turnover (35.3%) and the percentage

of removed directors (19.9%) are significantly lower than those for the post-bid target firm sample. Similarly, amongst the governance characteristics, director ownership (8%), and block ownership (39.2%) of non-target firms are significantly smaller than those for target firms.

[Insert Table 5 Here]

#### 4.2 Tests of director turnover in the post-bid period

To investigate the possibility of increased target director turnover following unsuccessful takeovers (H1), we estimate the following Probit regression models at the firm level:<sup>9</sup>

$$\begin{aligned}
 \text{Turnover}_i / \text{Turnover}\%_i = & \alpha_i + \beta_1 UT_i + \beta_2 \text{Director Ownership}_i + \\
 & \beta_3 \text{Block Ownership}_i + \beta_4 \text{Board Independence}_i + \beta_5 \text{Director Tenure}_i + \\
 & \beta_6 \text{CEO Duality}_i + \beta_7 \text{Board Size}_i + \beta_8 \text{Female Director}_i + \beta_9 \text{CEO Turnover}_i + \\
 & \beta_{10} \text{Firm Size}_i + \beta_{11} \text{Leverage}_i + \beta_{12} \text{Market-to-Book}_i + \\
 & \beta_{13} \text{Operating Cash Flow}_i + \beta_{14} \text{Sales}_i + \beta_{15} \text{Return-on-Assets}_i + \varepsilon_i
 \end{aligned}
 \tag{1}$$

$$\begin{aligned}
 \text{Turnover}_i / \text{Turnover}\%_i = & \alpha_i + \beta_1 TG_i + \beta_2 \text{Director Ownership}_i + \\
 & \beta_3 \text{Block Ownership}_i + \beta_4 \text{Board Independence}_i + \beta_5 \text{Director Tenure}_i + \\
 & \beta_6 \text{CEO Duality}_i + \beta_7 \text{Board Size}_i + \beta_8 \text{Female Director}_i + \beta_9 \text{CEO Turnover}_i + \\
 & \beta_{10} \text{Firm Size}_i + \beta_{11} \text{Leverage}_i + \beta_{12} \text{Market-to-Book}_i + \\
 & \beta_{13} \text{Operating Cash Flow}_i + \beta_{14} \text{Sales}_i + \beta_{15} \text{Return-on-Assets}_i + \varepsilon_i
 \end{aligned}
 \tag{2}$$

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<sup>9</sup> We conduct the tests of director turnover at the firm level for three reasons. First, the turnover tests at the firm level are consistent with the changes in governance attributes, such as board independence and director ownership. Second, the notion that unsuccessful takeovers signal the underperformance of target management highlights poor target performance at the firm level rather than at the director level. Third, if the tests are conducted at the director level, many firm-level covariates in the regression models will have similar values for different directors in the same firm, which may significantly affect the statistical power of the tests.

In Models (1) and (2), the dependent variable *TURNOVER* is coded as one if a firm replaces one of its directors, and zero otherwise. To capture the extent of director changes, we also use the percentage of directors replaced (*TURNOVER%*) as an alternative dependent variable. The indicator variable *UT* in Model (1) is coded as one for a target firm in the post-bid period, and zero for a target firm in the pre-bid period. The indicator variable *TG* in Model (2) is coded as one for a target firm, and zero for a PSM non-target firm.

Following prior research on takeover and director turnover, we include three governance variables as controls, including the percentage of shares held by the board (*Director Ownership*) (Jensen and Murphy, 1990), the proportion of shares held by blockholders (*Block Ownership*) (Demsetz and Lehn, 1985; Hill and Snell, 1988), and the proportion of independent directors on the board (*Board Independence*) (Fama and Jensen, 1983). In addition, we include control variables associated with CEO characteristics and target directors. First, we control for CEO duality (*CEO Duality*) (Goyal and Park, 2002) and board size (*Board Size*) (Yermack, 1996). Second, Ryan and Haslam (2007) document the “glass cliff” form of discrimination by demonstrating that, compared to males, females are more likely to be appointed to the positions as a leader when organisations are involved in negative events. Accordingly, the percentage of female directors (*Female Director*) is included as a control. Third, prior studies on CEO turnover show that CEOs with longer tenures are less likely to be replaced after unsuccessful takeovers (Dikolli *et al.* 2014; Goyal and Park, 2002). Therefore, we control for the average tenure of directors (*Director Tenure*). Given that director turnover may be a by-product of managerial turnover, CEO turnover (*CEO Turnover*) is also added as a control.



Additionally, we follow Bugeja *et al.*, (2009) and Liu (2016) and include financial characteristics as control variables, including firm size (*Firm Size*), leverage (*Leverage*), revenue (*Sales*), market-to-book ratio (*Market-to-Book*), and cash flow from operations (*Operating Cash Flow*). We follow Miglani *et al.*, (2020) and use industry-adjusted ROA (*Return-on-Assets*) to measure firms' accounting performance. Director turnover is expected to be higher following negative firm performance.

The results from estimating Models (1) and (2) are presented in Table 6. Columns (1) and (3) demonstrate that the coefficients on *UT* and *TG* are both positive and statistically significant (1.155 and 1.331, respectively). In particular, the marginal effect estimates (untabulated) of *UT* and *TG* are 0.332 and 0.432, respectively, indicating that the likelihood that a target firm replaces its directors is approximately 33% higher than in the post-bid period and 43% higher than the PSM non-target firm after the takeover.

In addition to the likelihood of director turnover, we also examine the extent to which the board of target directors is replaced following failed bids. Thus, we examine the proportion of directors being removed, and the results are reported in Columns (2) and (4). We find that the percentage of the target board replaced is 29.1% higher than pre-bid target firms and 25.4% higher than the matched firms during the post-bid period. Overall, the results in Table 6 support H1 in that target firms are more likely to replace directors following unsuccessful takeovers.

[Insert Table 6 Here]

With respect to the findings of the control variables, the coefficients on *Block Ownership* are positive and significant in Columns (1) and (3) suggesting that firms with a larger proportion of block shareholdings are more likely to dismiss directors. The coefficients on *Director Tenure* and *Board Size* are significantly negative in Columns (2) and (4), indicating that the proportion of dismissed directors is higher

when director tenure and board size are smaller. *CEO Turnover* is positive and significant in Columns (1) and (2), indicating that the director turnover rate is higher within target firms when target CEO turnover is higher. Meanwhile, the negative coefficient on *Director Ownership* suggests that the likelihood of director turnover is lower and the proportion of the board removed is smaller if director ownership is higher.

### 4.3 Tests of changes in director expertise and prestige in the post-bid period

To examine changes in director expertise and prestige on the board of target firms during the post-bid period (H2), we estimate the following regression models:

$$\begin{aligned} \Delta Director\ Expertise_i / \Delta Director\ Prestige_i = & \alpha_i + \beta_1 UT_i + \\ & \beta_2 Director\ Ownership_i + \beta_3 Block\ Ownership_i + \beta_4 Board\ Independence_i + \\ & \beta_5 Director\ Tenure_i + \beta_6 CEO\ Duality_i + \beta_7 Board\ Size_i + \\ & \beta_8 Female\ Director_i + \beta_9 CEO\ Turnover_i + \beta_{10} Director\ Change_i + \\ & \beta_{11} Firm\ Size_i + \beta_{12} Leverage_i + \beta_{13} Market\text{-}to\text{-}Book_i + \\ & \beta_{14} Operating\ Cash\ Flow_i + \beta_{15} Sales_i + \beta_{16} Return\text{-}on\text{-}Assets_i + \varepsilon_i \end{aligned} \quad (3)$$

$$\begin{aligned} \Delta Director\ Expertise_i / \Delta Director\ Prestige_i = & \alpha_i + \beta_1 TG_i + \\ & \beta_2 Director\ Ownership_i + \beta_3 Block\ Ownership_i + \beta_4 Board\ Independence_i + \\ & \beta_5 Director\ Tenure_i + \beta_6 CEO\ Duality_i + \beta_7 Board\ Size_i + \\ & \beta_8 Female\ Director_i + \beta_9 CEO\ Turnover_i + \beta_{10} Director\ Change_i + \\ & \beta_{11} Firm\ Size_i + \beta_{12} Leverage_i + \beta_{13} Market\text{-}to\text{-}Book_i + \\ & \beta_{14} Operating\ Cash\ Flow_i + \beta_{15} Sales_i + \beta_{16} Return\text{-}on\text{-}Assets_i + \varepsilon_i \end{aligned} \quad (4)$$

Similar to Models (1) and (2), we use two control samples, namely the target firm in the pre-bid period and PSM matched non-target firms in the post-bid period, in Models (3) and (4) respectively. We examine two director characteristics, namely the

number of other directorships held by directors (*Director Expertise*) and the number of board seats directors hold on the boards of prestigious firms (*Director Prestige*).

The dependent variable  $\Delta$ *Director Expertise* is measured as the change in the total number of outside directorships held by directors.  $\Delta$ *Director Prestige* is measured as the change in the number of board seats directors previously held on the board in any of the top 100 ASX firms (i.e., publicly listed firms with the largest market capitalisation in Australia). In addition to the control variables included in Models (1) and (2), we add *Director Change* (coded as one if there are any departing or joining directors, and zero otherwise) in Models (3) and (4) to control for leaving or newly appointed directors.

The results for changes in director expertise and prestige are presented in Table 7. The negative coefficient on *UT* in Columns (1) and (2) suggests that both director expertise and director prestige decline significantly after unsuccessful takeovers. This finding implies that experienced directors and those serving in prestigious firms either leave the board of target firms or they are unwilling to join target firms in the post-bid period, leading to a significant reduction in both director experience and prestige. It is noted that the coefficient on *TG* is positive (2.015) (Column 3) and significant, indicating that, compared to matched non-target firms, directors in target firms are more experienced in the post-bid period. This evidence suggests that, although director expertise in target firms in the post-bid period decreases significantly compared to the period before failed bids, their director expertise is still greater than that in the PSM firms during the same period. The coefficient on *TG* in Column (4) is positive but insignificant, indicating that changes in director prestige in target firms do not differ significantly from those in the PSM-matched firms. Overall, the results in Table 7

provide evidence that director expertise and prestige in target firms are lower following unsuccessful takeovers relative to the target firm board prior to the bid.

[Insert Table 7 Here]

#### 4.4 Tests of other governance changes in the post-bid period

Next, we estimate the following regression models to investigate H3 predicting that governance attributes among target firms change following unsuccessful takeovers. The three governance aspects tested are the change in board independence ( $\Delta Board Independence$ ), director ownership ( $\Delta Director Ownership$ ), and block ownership ( $\Delta Block Ownership$ ):

$$\begin{aligned} \Delta Board Independence_i / \Delta Director Ownership_i / \Delta Block Ownership_i = & \alpha_i + \\ & \beta_1 UT_i + \beta_2 Director Ownership_i + \beta_3 Block Ownership_i + \\ & \beta_4 Board Independence_i + \beta_5 Director Tenure_i + \beta_6 CEO Duality_i + \\ & \beta_7 Board Size_i + \beta_8 Female Director_i + \beta_9 CEO Turnover_i + \beta_{10} Firm Size_i + \\ & \beta_{11} Leverage_i + \beta_{12} Market-to-Book_i + \beta_{13} Operating Cash Flow_i + \beta_{14} Sales_i + \\ & \beta_{15} Return-on-Assets_i + \varepsilon_i \end{aligned} \tag{5}$$

$$\begin{aligned} \Delta Board Independence_i / \Delta Director Ownership_i / \Delta Block Ownership_i = & \alpha_i + \\ & \beta_1 TG_i + \beta_2 Director Ownership_i + \beta_3 Block Ownership_i + \\ & \beta_4 Board Independence_i + \beta_5 Director Tenure_i + \beta_6 CEO Duality_i + \\ & \beta_7 Board Size_i + \beta_8 Female Director_i + \beta_9 CEO Turnover_i + \beta_{10} Firm Size_i + \\ & \beta_{11} Leverage_i + \beta_{12} Market-to-Book_i + \beta_{13} Operating Cash Flow_i + \beta_{14} Sales_i + \\ & \beta_{15} Return-on-Assets_i + \varepsilon_i \end{aligned} \tag{6}$$

Specifically, we examine governance changes in target firms in the pre-bid vs. post-bid periods in Model (5) and target vs. PSM matched firms in Model (6).  $\Delta Board Independence$  is the change in board independence, measured as the change in the percentage of independent directors on the board. The change in director ownership ( $\Delta Director Ownership$ ) is the change in the percentage of total director shareholdings. The change in block ownership ( $\Delta Block Ownership$ ) is the change in the sum of shareholdings exceeding 5% of a firm's ordinary shares.

The results reported in Table 8 show that the coefficients on *UT* in Columns (1) to (3) indicate that compared to the pre-bid period, director ownership in the target firms increases by 4.6%, block ownership grows by 6.1% and the proportion of independent directors on target boards rises by 8.2%. This finding is consistent with an increased degree of monitoring in target firms after a failed bid. Columns (4) to (6) of Table 8 present the results of comparing target firms and PSM firms in the post-bid period. The coefficients indicate that target firms experience a 4.8% increase in director shareholdings and a 11.6% increase in block shareholdings following failed takeovers. Regarding board independence, the coefficient in Column (6) is positive but insignificant.<sup>10</sup> Overall, the results in Table 8 provide evidence that target firms experience increased director ownership, block ownership, and board independence following unsuccessful takeovers.

[Insert Table 8 Here]

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<sup>10</sup> The findings on the control variables in Table 8 are inconsistent across columns. The results suggest that firms are experience an increase in director ownership and board independence when the board is smaller, and directors have a shorter tenure. Moreover, the positive coefficients on *CEO Duality*, *Board Size* and *Female Director* indicate that firms with CEO duality, a larger board size, and a higher proportion of female directors are more likely to experience an increase in block shareholdings post-bid.

#### 4.5 Tests of the relation between governance changes and post-bid performance

We examine the relation between governance changes (i.e., director and block ownership, board independence, and director experience and prestige) and target firm performance in the post-bid period (H4) using the following models:

$$\begin{aligned} \text{Return-on-Assets}_i / \text{Cumulative Abnormal Return}_i = & \alpha_i + \beta_1 UT_i + \\ & \beta_2 \text{Turnover}_i + \beta_3 \Delta \text{Director Ownership}_i + \beta_4 \Delta \text{Block Ownership}_i + \\ & \beta_5 \Delta \text{Board Independence}_i + \beta_6 \Delta \text{Director Expertise}_i + \\ & \beta_7 \Delta \text{Director Prestige}_i + \beta_8 UT_i \times \text{Turnover}_i + \beta_9 UT_i \times \\ & \Delta \text{Director Ownership}_i + \beta_{10} UT_i \times \Delta \text{Block Ownership}_i + \beta_{11} UT_i \times \\ & \Delta \text{Board Independence}_i + \beta_{12} UT_i \times \Delta \text{Director Expertise}_i + \beta_{13} UT_i \times \\ & \Delta \text{Director Prestige}_i + \beta_{14} \text{Director Tenure}_i + \beta_{15} \text{CEO Duality}_i + \\ & \beta_{16} \text{Board Size}_i + \beta_{17} \text{Female Director}_i + \beta_{18} \text{CEO Turnover}_i + \beta_{19} \text{Firm Size}_i + \\ & \beta_{20} \text{Leverage}_i + \beta_{21} \text{Market-to-Book}_i + \beta_{22} \text{Operating Cash Flow}_i + \beta_{23} \text{Sales}_i + \\ & \varepsilon_i \end{aligned} \tag{7}$$

$$\begin{aligned} \text{Return-on-Assets}_i / \text{Cumulative Abnormal Return}_i = & \alpha_i + \beta_1 TG_i + \\ & \beta_2 \text{Turnover}_i + \beta_3 \Delta \text{Director Ownership}_i + \beta_4 \Delta \text{Block Ownership}_i + \\ & \beta_5 \Delta \text{Board Independence}_i + \beta_6 \Delta \text{Director Expertise}_i + \\ & \beta_7 \Delta \text{Director Prestige}_i + \beta_8 TG_i \times \text{Turnover}_i + \beta_9 TG_i \times \\ & \Delta \text{Director Ownership}_i + \beta_{10} TG_i \times \Delta \text{Block Ownership}_i + \beta_{11} TG_i \times \\ & \Delta \text{Board Independence}_i + \beta_{12} TG_i \times \Delta \text{Director Expertise}_i + \beta_{13} TG_i \times \\ & \Delta \text{Director Prestige}_i + \beta_{14} \text{Director Tenure}_i + \beta_{15} \text{CEO Duality}_i + \\ & \beta_{16} \text{Board Size}_i + \beta_{17} \text{Female Director}_i + \beta_{18} \text{CEO Turnover}_i + \beta_{19} \text{Firm Size}_i + \\ & \beta_{20} \text{Leverage}_i + \beta_{21} \text{Market-to-Book}_i + \beta_{22} \text{Operating Cash Flow}_i + \beta_{23} \text{Sales}_i + \\ & \varepsilon_i \end{aligned} \tag{8}$$

H4 predicts that governance changes lead to better accounting and stock performance in the post-bid period. To test this hypothesis, we include an interaction term between  $UT/(TG)$  and director turnover and changes in governance attributes in the regression. The variables of interest are the interaction terms  $UT \times \text{Turnover}$ ,  $UT \times \Delta \text{Director Ownership}$ ,  $UT \times \Delta \text{Board Independence}$ ,  $UT \times \Delta \text{Block Ownership}$ ,  $UT \times \Delta \text{Director Expertise}$ , and  $UT \times \Delta \text{Director Prestige}$  when the control group is target firms in the pre-bid period. When the PSM sample is used, the variables of interest are

the interaction terms  $TG \times Turnover$ ,  $TG \times \Delta Director\ Ownership$ ,  $TG \times \Delta Board\ Independence$ ,  $TG \times \Delta Block\ Ownership$ ,  $TG \times \Delta Director\ Expertise$ , and  $TG \times \Delta Director\ Prestige$ . For dependent variables, we use *Return-on-Assets* and the *Cumulative Abnormal Return* following unsuccessful takeovers to capture the target firm performance in the post-bid period. Control variables are similar to those discussed earlier.

The results are presented in Table 9. When we use pre-bid target firms as the control group, we document a significant coefficient on the interaction term  $UT * Turnover$  (0.676) in Column (2), suggesting that post-bid target director turnover is positively associated with post-bid target stock returns. The coefficients on the interaction term  $UT \times \Delta Director\ Prestige$  and  $TG \times \Delta Director\ Prestige$  are positive and statistically significant (0.091 and 0.595, respectively) in both Columns (2) and (4), suggesting that when director prestige increases, there is a positive impact on share returns for target firms. The findings on the other interaction variables are largely insignificant, although surprisingly  $TG \times \Delta Director\ Expertise$  is significantly negative in Column (4). Overall, the results in Table 9 provide only limited evidence of a positive impact of director turnover and changes in governance after unsuccessful M&As.

[Insert Table 9 Here]

## 5. Additional and robustness tests

For robustness and extension, we conduct several additional tests. First, we re-examine H1 after partitioning directors into executive directors, non-executive directors, and CEOs. The results shown in Table 10 are largely consistent with the main results. Compared to the sample of pre-bid target firms, the likelihood of executive director, non-executive director, and CEO turnover is higher post-bid. The percentage of non-executive (executive) target directors removed is 12.7% (11.6%) higher following

failed bids. When we use the PSM sample as the control group, the findings in Panels A and B indicate that target firms remove a larger proportion of executive and non-executive directors (10.5%) from the board. However, the indicator variable in Column (3) of Panel A denoting the turnover of non-executive target directors is insignificant.<sup>11</sup>

[Insert Table 10 Here]

Second, we examine all four hypotheses by adding additional control variables into Models (1), (3), (5), and (7) for the target firm sample pre- and post-bid. Prior research shows that certain takeover characteristics, such as the payment method, takeover hostility, and bidders' toehold, are associated with top management turnover after takeovers (Morck *et al.* 1988; Shleifer and Vishny, 2003). Therefore, we control for *Cashdeal*, *Hostile* and *Toehold*. The effort directors exert in bargaining may be higher when a deal is more complex, thereby impacting director turnover in the post-bid period (Bugeja *et al.* 2009). Thus, the existence of foreign acquirers (*Foreign*), competing bidders (*Multiple*), and the revision of the offer price (*Revision*) are controlled in the models. We also control for takeover premium (*Premiums*), as a higher premium may be an indicator of higher efficiency gains from dismissing underperforming managers (Kennedy and Limmack, 1996). Finally, CEO age and director age could be important determinants of the likelihood of directors leaving or joining a firm (Murphy and Zimmerman, 1993; Weisbach, 1988). Therefore, CEO age (*CEO Age*) and the average age of directors sitting on the board (*Director Age*) are included in Models (1) and (2) as additional controls to test H1. After controlling for

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<sup>11</sup> To test if the turnover for executive directors (and CEO in particular) has a greater effect on firm performance in the post-bid period, we interact non-executive turnover, executive turnover, and CEO turnover rate with the independent variables *UT* and *TG* as an additional test of H4. In untabulated analyses, we do not find a significant relation between the turnover rate for different groups of directors or the CEO and the post-bid accounting and stock performance of the target firm. An exception is that when we use the target firms in the pre-bid period as the control group, the turnover rate for non-executive directors has a negative effect on ROA in the post-bid period.



these additional variables, the untabulated results provide consistent findings with our main results.<sup>12</sup>

Third, we re-run the models for the four hypotheses partitioned by whether the bid is hostile or friendly. Generally, we find that target firms engaging in hostile takeover bids are more likely to experience positive changes in director ownership and block ownership compared to target firms in the pre-bid period. Firms involved in friendly deals tend to experience a more pronounced decline in director expertise and prestige, and have improved governance measured by an increased proportion of independent directors in the post-bid period.

Finally, we re-estimate the regression models partitioned by whether the bid is a pure cash deal or a mixed transaction. Compared to the target firms in the pre-bid period, the proportion of directors being removed for firms involved in all cash deals (20.2%) is smaller than that for target firms with a mixed payment and equity bid (38%). Furthermore, in addition to an increased degree of monitoring indicated by director shareholdings, we find that firms engaged in mixed payment deals have a larger proportion of independent directors on their boards in the post-bid period. However, the coefficients on the interaction terms in Models (7) and (8) are largely insignificant, suggesting that changes in governance in the post-bid period have little effect on firm performance.

## **6. Discussion and conclusion**

A failed takeover bid may act as a “wake-up call,” activate governance mechanisms to replace ineffective management following unsuccessful takeovers (Liu,

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<sup>12</sup> For control variables, we find that the coefficient on cash deals is significantly positive in Model (1) indicating that cash deals increase director turnover and the proportion of directors being removed in the post-bid period. In addition, we find a positive relation between director age and the likelihood of director turnover. However, the coefficients on the other additional control variables are insignificant.

2016) and lead to changes in a range of governance attributes. However, prior evidence of changes in governance attributes following failed takeover bids is limited and has mainly examined CEO turnover. Our study fills this void in the literature by providing evidence of governance changes and their effects on post-bid performance within unsuccessful targets. Additionally, unlike prior research the present study attempts to address the endogenous nature of unsuccessful takeovers using two control groups which arguably adds to the robustness of our findings.

Using a sample of failed Australian takeovers between 2004 and 2017, we find that, compared to two control groups, target firms are more likely to remove directors post-bid. These results indicate that target directors are disciplined even when the court of last resort fails (Fama, 1980). In addition, we find evidence that both target director expertise and prestige decrease after takeover bids compared to the pre-bid period, suggesting the departure of qualified directors and an inability of the target to appoint high quality directors. We also find that board independence, director ownership and block ownership increase in the post-bid period, suggesting an increased effectiveness of corporate governance in target firms after failed takeovers. Finally, we examine the relation between governance changes and the post-bid performance of target firms. In general, we find no consistent evidence that target firm performance during the post-bid period is related to changes in governance attributes.

## References

- Agrawal, A., & Walkling, R.A. (1994) Executive careers and compensation surrounding takeover bids. *The Journal of Finance*, 49(3), 985-1014. doi: 10.1111/j.1540-6261.1994.tb00085.x
- Aktas, N., Croci, E., & Simsir, S.A. (2016) Corporate governance and takeover outcomes. *Corporate Governance: An International Review*, 24(3), 242-252. doi: 10.1111/corg.12116
- Albuquerque, R., Brandão-Marques, L., Ferreira, M.A. & Matos, P. (2019) International corporate governance spillovers: Evidence from cross-border mergers and acquisitions. *The Review of Financial Studies*, 32(2), 738-770. doi: 10.1093/rfs/hhy053
- Bates, T. W., & Becher, D.A. (2017) Bid resistance by takeover targets: Managerial bargaining or bad faith? *Journal of Financial and Quantitative Analysis*, 52(3), 837-866. doi: 10.1017/S0022109017000278
- Becht, M., Bolton, P., & Röell, A. (2003) Corporate governance and control. In *Handbook of the Economics of Finance* Vol. 1, pp. 1-109): Elsevier.
- Berkovitch, E., & Narayanan, M. (1993) Motives for takeovers: An empirical investigation. *Journal of Financial and Quantitative Analysis*, 28(3), 347-362. doi: 10.2307/2331418
- Bethel, J. E., & Liebeskind, J. (1993) The effects of ownership structure on corporate restructuring. *Strategic Management Journal*, 14(S1), 15-31. doi: 10.1002/smj.4250140904
- Boivie, S., Graffin, S.D. & Pollock, T.G. (2012) Time for me to fly: Predicting director exit at large firms. *Academy of Management Journal*, 55(5), 1334-1359. doi: 10.5465/amj.2010.1083
- Brada, J.C. & Iwasaki, I. (2023) Do target-country legal institutions affect cross-border mergers and acquisitions? A quantitative literature survey. *European Journal of Law and Economics*, 55(2), 225-289. doi: 10.1007/s10657-022-09751-8
- Bradley, M., Desai, A., & Kim, E.H. (1983) The rationale behind interfirm tender offers: Information or synergy? *Journal of Financial Economics*, 11(1-4), 183-206. doi: 10.1016/0304-405X(83)90010-7
- Bugeja, M., da Silva Rosa, R., Izan, H.Y., & Ngan, S. (2019) Choice of acquisition form in Australia and the post-takeover employment of target firm directors on the acquiring firm board. *Accounting and Finance*, 59(4), 2235-2271. doi: 10.1111/acfi.12307
- Bugeja, M., da Silva Rosa, R., & Lee, A. (2009) The impact of director reputation and performance on the turnover and board seats of target firm directors. *Journal of Business Finance & Accounting*, 36(1), 185-209. doi: 10.1111/j.1468-5957.2008.02115.x
- Chatterjee, S. (1992) Sources of value in takeovers: Synergy or restructuring—implications for target and bidder firms. *Strategic Management Journal*, 13(4), 267-286. doi: 10.1002/smj.4250130403
- Chatterjee, S., Harrison, J.S., & Bergh, D.D. (2003) Failed Takeover Attempts, Corporate Governance and Refocusing. *Strategic Management Journal*, 24(1), 87-96. doi: 10.1002/smj.279
- Chatterjee, S., Harrison, J.S., & Bergh, D.D. (2010) The Influence of Governance Characteristics on the Strategic Response to a Failed Takeover Bid. 499-502 in *Handbook of Top Management Teams*. Springer.

- Croci, E. (2006) Stock price performances of target firms in unsuccessful acquisitions. Working paper, Catholic University of the Sacred Heart of Milan.
- Cumming, D., Jindal, V., Kumar, S., & Pandey, N. (2023) Mergers and acquisitions research in finance and accounting: Past, present and future., *European Financial Management* (forthcoming), doi: 10.1111/eufm.12417.
- Demsetz, H., & Lehn, K. (1985) The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, 93(6), 1155-1177. doi: 10.1086/261354
- Denis, D., & McConnell, J.J. (2003) International corporate governance. *Journal of Financial and Quantitative Analysis*, 38(1), 1-36. doi: 10.2307/4126762
- Denis, D., & Serrano, J.M. (1996) Active investors and management turnover following unsuccessful control contests. *Journal of Financial Economics*, 40(2), 239-266. doi: 10.1016/0304-405X(95)00846-7
- Dikolli, S.S., Mayew, W.J., & Nanda, D. (2014) CEO tenure and the performance-turnover relation. *Review of Accounting Studies*, 19(1), 281-327. doi: 10.1007/s11142-013-9247-6
- Drobetz, W. & Momtaz, P.P. (2020a) Antitakeover provisions and firm value: New evidence from the M&A market. *Journal of Corporate Finance*, 62, 101594. doi: 10.1016/j.corpfin.2020.101594
- Drobetz, W. & Momtaz, P.P. (2020b) Corporate governance convergence in the European M&A market. *Finance Research Letters*, 32, 101091, doi: 10.1016/j.frl.2019.01.003
- Dou, Y. (2017) Leaving before bad times: Does the labor market penalize preemptive director resignations? *Journal of Accounting and Economics*, 63(2-3), 161-178. doi: 10.1016/j.jacceco.2017.02.002
- Drobetz, W. & Momtaz, P.P. (2020) Corporate governance convergence in the European M&A market. *Finance Research Letters*, 32, 101091, doi: 10.1016/j.frl.2019.01.003
- Eckbo, B. (2008) *Handbook of Empirical Corporate Finance*. New York: Elsevier.
- Eckbo, B. (2014) Corporate takeovers and economic efficiency. *Annual Review of Financial Economics*, 6(1), 51-74. doi: 10.1146/annurev-financial-110112-120938
- Fahlenbrach, R., Low, A., & Stulz, R.M. (2010) Why do firms appoint CEOs as outside directors? *Journal of Financial Economics*, 97(1), 12-32. doi: 10.1016/j.jfineco.2010.01.003
- Fama, E.F. (1980) Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2), 288-307. doi: 10.1086/260866
- Fama, E.F., & Jensen, M.C. (1983) Separation of ownership and control. *The Journal of Law and Economics*, 26(2), 301-325. doi: 10.1086/467037
- Farber, D.B. (2005) Restoring trust after fraud: Does corporate governance matter? *The Accounting Review*, 80(2), 539-561. doi: 10.2308/accr.2005.80.2.539
- Fich, E.M., & Shivdasani, A. (2007) Financial fraud, director reputation, and shareholder wealth. *Journal of Financial Economics*, 86(2), 306-336. doi: 10.1016/j.jfineco.2006.05.012
- Franks, J., & Mayer, C. (1996) Hostile takeovers and the correction of managerial failure. *Journal of Financial Economics*, 40(1), 163-181. doi: 10.1016/0304-405X(95)00840-B
- Gao, Y., Kim, J-B., Tsang, D., & Wu, H. (2016) Go before the whistle blows: An empirical analysis of director turnover and financial fraud. *Review of Accounting Studies*, 22(1), 320-360. doi: 10.1007/s11142-016-9381-z

- Ghannam, S., Bugeja, M., Matolcsy, Z.P., & Spiropoulos H. (2019) Are qualified and experienced outside directors willing to join fraudulent firms and if so, why? *The Accounting Review*, 94(2), 205-227. doi: 10.2308/accr-52195
- Gilson, S.C. (1990) *Bankruptcy, boards, banks, and blockholders: Evidence on changes in corporate ownership and control when firms default*, *Journal of Financial Economics*, 27(2), 355-387. doi: 10.1016/0304-405X(90)90060-D
- Goyal, V.K., & Park, C.W. (2002) Board leadership structure and CEO turnover. *Journal of Corporate Finance*, 8(1), 49-66. doi: 10.1016/S0929-1199(01)00028-1
- Harford, J. (2003) Takeover bids and target directors' incentives: The impact of a bid on directors' wealth and board seats. *Journal of Financial Economics*, 69(1), 51-83. doi: 10.1016/S0304-405X(03)00108-9
- Heitzman, S. (2011) Equity grants to target CEOs during deal negotiations. *Journal of Financial Economics*, 102(2), 251-271. doi: 10.1016/j.jfineco.2011.06.004
- Henry, T.R., & Koski, J.L. (2017) Ex-dividend profitability and institutional trading skill. *The Journal of Finance*, 72(1), 461-494. doi: 10.1111/jofi.12472
- Hermalin, B.E., & Weisbach, M.S. (1988) The determinants of board composition *The RAND Journal of Economics*, 19(4), 589-606. doi: 10.2307/2555459
- Heyden, M.L.M., Kavadis, N., & Neuman, Q. (2014) External Corporate Governance and Strategic Investment Behaviors of Target CEOs. *Journal of Management*, 43(7), 2065-2089. doi: 10.1177/0149206314563400
- Hill, C.W., & Snell, A.S. (1988) External control, corporate strategy, and firm performance in research-intensive industries. *Strategic Management Journal*, 9(6), 577-590. doi: 10.1002/smj.4250090605
- Holl, P., & Pickering, J.F. (1988) The determinants and effects of actual, abandoned and contested mergers. *Managerial and Decision Economics*, 9(1), 1-19. doi: 10.1002/mde.4090090101
- Jandik, T., & Makhija, A.K. (2005) Debt, debt structure and corporate performance after unsuccessful takeovers: Evidence from targets that remain independent. *Journal of Corporate Finance*, 11(5), 882-914. doi: 10.1016/j.jcorpfin.2004.04.002
- Jensen, M.C., & Meckling, W.H. (1976) Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360. doi: 10.1016/0304-405X(76)90026-X
- Jensen, M.C., & Murphy, K.J. (1990) Performance pay and top-management incentives. *Journal of Political Economy*, 98(2), 225-264. doi: 10.1086/261677
- Jensen, M.C., & Ruback, R.S. (1983) The market for corporate control: The scientific evidence. *Journal of Financial Economics*, 11(1-4), 5-50. doi: 10.1016/0304-405X(83)90004-1
- Jensen, M.C., & Warner, J.B. (1988) The distribution of power among corporate managers, shareholders, and directors, *Journal of Financial Economics* 20(Jan/Mar), 3-24. doi: 10.1016/0304-405X(88)90038-4
- Kaplan, S.N., & Reishus, D. (1990) Outside directorships and corporate performance. *Journal of Financial Economics*, 27(2), 389-410. doi: 10.1016/0304-405X(90)90061-4
- Kennedy, V.A., & Limmack, R.J. (1996) Takeover activity, CEO turnover, and the market for corporate control. *Journal of Business Finance & Accounting*, 23(2), 267-285. doi: 10.1111/j.1468-5957.1996.tb00912.x

- Kini, O., Kracaw, W., & Mian, S. (1995) Corporate takeovers, firm performance, and board composition. *Journal of Corporate Finance*, 1(3), 383-412. doi: 10.1016/0929-119994)00011-1
- Kini, O., Kracaw, W., & Mian, S. (2004) The Nature of Discipline by Corporate Takeovers. *The Journal of Finance*, 59(4), 1511-1552. doi: 10.1111/j.1540-6261.2004.00671.x
- Kroll, M., Walters, B.A. & Wright, P. (2008) Board vigilance, director experience, and corporate outcomes. *Strategic Management Journal*, 29(4), 363-382. doi: 10.1002/smj.649
- Li, L., Tong, W.H.S. & Cheng, P. (2022) Changes in the Incentive Contracts of Takeover Targets after Merger Failures. *Journal of Accounting, Auditing & Finance*, 37(1), 143-172. doi: 10.1177/0148558X1983248
- Lin, C., Officer, M.S. & Zou, H. (2011) Directors' and officers' liability insurance and acquisition outcomes. *Journal of Financial Economics*, 102(3), 507-525. doi: 10.1016/j.jfineco.2011.08.004
- Liu, B. (2016) The disciplinary role of failed takeover attempts. *Journal of Financial Research*, 39(1), 63-85. doi: 10.1111/jfir.12088
- Lorsch, J. (1989) *Pawns or potentates: The reality of America's corporate boards*. Boston, MA: Harvard Business School Press.
- Maffett, M. (2012) Financial reporting opacity and informed trading by international institutional investors. *Journal of Accounting and Economics*, 54(2-3), 201-220. doi: 10.1016/j.jacceco.2012.09.002
- Malatesta, P. H. (1983) The wealth effect of merger activity and the objective functions of merging firms. *Journal of Financial Economics*, 11(1-4), 155-181. doi: 10.1016/0304-405X83)90009-0
- Malmendier, U., Opp, M.M., & Saidi, F. (2016) Target revaluation after failed takeover attempts: Cash versus stock. *Journal of Financial Economics*, 119(1), 92-106. doi: 10.1016/j.jfineco.2015.08.013
- Manne, H. G. (1965) Mergers and the market for corporate control. *Journal of Political Economy*, 73(4), 110-120. doi: 10.1086/259000
- Martin, K.J., & McConnell, J.J. (1991) Corporate performance, corporate takeovers, and management turnover. *The Journal of Finance*, 46(2), 671-687. doi: 10.1111/j.1540-6261.1991.tb02679.x
- Masulis, R.W., & Mobbs, S. (2014) Independent director incentives: Where do talented directors spend their limited time and energy? *Journal of Financial Economics*, 111(2), 406-429. doi: 10.1016/j.jfineco.2013.10.011
- Miglani, S. (2014) CEO characteristics and corporate turnaround: Evidence from Australia. *Corporate Ownership and Control*, 11(2), 362-376. doi: 10.22495/cocv11i2c3p5
- Miglani, S., Ahmed, K., & Henry, D. (2020) Corporate governance and turnaround: Evidence from Australia. *Australian Journal of Management*, 45(4), 549-578. doi: 10.1177/0312896220902225
- Mikkelson, W.H., & Partch, M.M. (1997) The decline of takeovers and disciplinary managerial turnover. *Journal of Financial Economics*, 44(2), 205-228. doi: 10.1016/S0304-405X97)00003-2
- Monem, R., & Ng, C. (2013) Australia's 'two-strikes' rule and the pay-performance link: are shareholders judicious? *Journal of Contemporary Accounting and Economics*, 9(2), 237-254. doi: 10.1016/j.jcae.2013.10.002

- Morck, R., Shleifer, A., & Vishny, R.W. (1988) Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*, 20(1-2), 293-315. doi: 10.1016/0304-405X(88)90048-7
- Mueller, G.C., & Barker, V.L. (1997) Upper echelons and board characteristics of turnaround and nonturnaround declining firms. *Journal of Business Research*, 39(2), 119-134. doi: 10.1016/S0148-2963(96)00147-6
- Murphy, K.J., & Zimmerman, J.L. (1993) Financial performance surrounding CEO turnover. *Journal of Accounting and Economics*, 16(1-3), 273-315. doi: 10.1016/0165-4101(93)90014-7
- O'Sullivan, N., & Wong, P. (1998) The impact of board composition and ownership on the nature and outcome of UK takeovers. *Corporate Governance: An International Review*, 6(2), 92-100. doi: 10.1111/1467-8683.00088
- Parker, S., Peters, G.F. & Turetsky, H.F. (2002) Corporate governance and corporate failure: A survival analysis. *Corporate Governance: The International Journal of Business in Society*, 2(2), 4-12, doi: 10.1108/14720700210430298
- Powell, R. (1997) Modelling takeover likelihood, *Journal of Business Finance & Accounting*, 24(7/8), 1009-1030. doi: 10.1111/1468-5957.00148
- Rhodes-Kropf, M., & Viswanathan, S. (2004) Market valuation and merger waves. *The Journal of Finance*, 59(6), 2685-2718. doi: 10.1111/j.1540-6261.2004.00713.x
- Rutherford, M.A., & Buchholtz, A.K. (2007) Investigating the relationship between board characteristics and board information. *Corporate Governance: An International Review*, 15(4), 576-584. doi: 10.1111/j.1467-8683.2007.00589.x
- Ryan, M.K., & Haslam, S.A. (2007) The glass cliff: Exploring the dynamics surrounding the appointment of women to precarious leadership positions. *Academy of Management Review*, 32(2), 549-572. doi: 10.5465/amr.2007.24351856
- Safieddine, A., & Titman, S. (1999) Leverage and corporate performance: Evidence from unsuccessful takeovers. *The Journal of Finance*, 54(2), 547-580. doi: 10.1111/0022-1082.00117
- Schwert, G.W. (2000) Hostility in takeovers: in the eyes of the beholder? *The Journal of Finance*, 55(6), 2599-2640. doi: 10.1111/0022-1082.00301
- Shleifer, A., & Vishny, R.W. (2003) Stock market driven acquisitions. *Journal of Financial Economics*, 70(3), 295-311. doi: 10.1016/S0304-405X(03)00211-3
- Srinivasan, S. (2005) Consequences of financial reporting failure for outside directors: Evidence from accounting restatements and audit committee members. *Journal of Accounting Research*, 43(2), 291-334. doi: 10.1111/j.1475-679x.2005.00172.x
- Tannous, G.F., & Cheng, B. (2007) Canadian Takeover Announcements and the Job Security of Top Managers. *Canadian Journal of Administrative Sciences*, 24(4), 250-267. doi: 10.1002/cjas.30
- Walsh, J.P. (1988) Top management turnover following mergers and acquisitions. *Strategic Management Journal*, 9(2), 173-183. doi: 10.1002/smj.4250090207
- Weisbach, M.S. (1988) Outside directors and CEO turnover. *Journal of Financial Economics*, 20(1-2), 431-460. doi: 10.1016/0304-405X(88)90053-0
- Westphal, J.D., & Milton, L.P. (2000) How experience and network ties affect the influence of demographic minorities on corporate boards. *Administrative Science Quarterly*, 45(2), 366-398. doi: 10.2307/2667075
- Wiesenfeld, B.M., Wurthmann, K.A., & Hambrick, D.C. (2008) The Stigmatization and Devaluation of Elites Associated with Corporate Failures: A Process Model.

- Academy of Management Review*, 33 (1), 231-251. doi: 10.5465/ambpp.2004.13857669
- Wong, P. & O'Sullivan, N. (2001) The determinants and consequences of abandoned takeovers. *Journal of Economic Surveys*, 15(2), 145-186. doi: 10.1111/1467-6419.00135
- Yermack, D. (1996) Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40(2), 185-211. doi: 10.1016/0304-405X(95)00844-5
- Zahra, S.A., & Pearce J.A. (1989) Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management*, 15(2), 291-334. doi: 10.1177/014920638901500208



## Appendix A: Variable definitions

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### Panel A: Indicator variables

<i>UT</i>	Indicator variable, coded as one for an unsuccessful target firm in the post-bid period and zero for a target firm in the pre-bid period
<i>TG</i>	Indicator variable, coded as one for a target firm and zero for a propensity-score matched non-target firm

### Panel B: Governance variables

<i>Turnover</i>	Indicator variable, coded as one if a firm replaces a director and zero otherwise
<i>Turnover%</i>	The proportion of the board that is replaced
<i>Director Ownership</i>	The sum of the percentage of total shares held by all directors
$\Delta$ <i>Director Ownership</i>	Change in director ownership
<i>Block Ownership</i>	The sum of the percentage of total shares owned by shareholders exceeding 5% of total ordinary shares issued
$\Delta$ <i>Block Ownership</i>	Change in block ownership
<i>Board Independence</i>	The percentage of independent directors on the board
$\Delta$ <i>Board Independence</i>	Change in the proportion of independent directors
$\Delta$ <i>Director Expertise</i>	Change in the total number of other directorships held by directors
$\Delta$ <i>Director Prestige</i>	Change in the total number of seats directors hold on the board of the top 100 ASX firms
<i>Director Change</i>	Indicator variable, coded as one when there is a director leaving or joining the board
<i>Director Tenure</i>	The average length of time a director holds a board seat
<i>CEO Duality</i>	Indicator variable, coded as one if a CEO also serves as the chairperson on the board and zero otherwise
<i>Board Size</i>	The total number of directors on the board
<i>Female Director</i>	The percentage of female directors on the board
<i>CEO Turnover</i>	Indicator variable, coded as one if a firm replaces a CEO and zero otherwise
<i>CEO Age</i>	The age of the CEO
<i>Director Age</i>	The average age of the directors

### Panel C: Takeover-specific variables

<i>Cash Deal</i>	Indicator variable, coded as one if the payment for the takeover is purely cash and zero otherwise
<i>Hostile</i>	Indicator variable, coded as one if a takeover attempt is hostile and zero otherwise
<i>Toehold</i>	The percentage of shares owned by the acquirer when the acquirer announces the takeover offer
<i>Foreign</i>	Indicator variable, coded as one if the bidder is a foreign acquirer and zero otherwise
<i>Multiple</i>	Indicator variable, coded as one if there are competing bidders and zero otherwise
<i>Revision</i>	Indicator variable, coded as one if the price of the bidder's offer is revised and zero otherwise
<i>Premiums</i>	The takeover offer price, less the target share price 20 days prior to the takeover announcement, divided by the target share price 20 days prior to the announcement

### Panel D: Financial variables

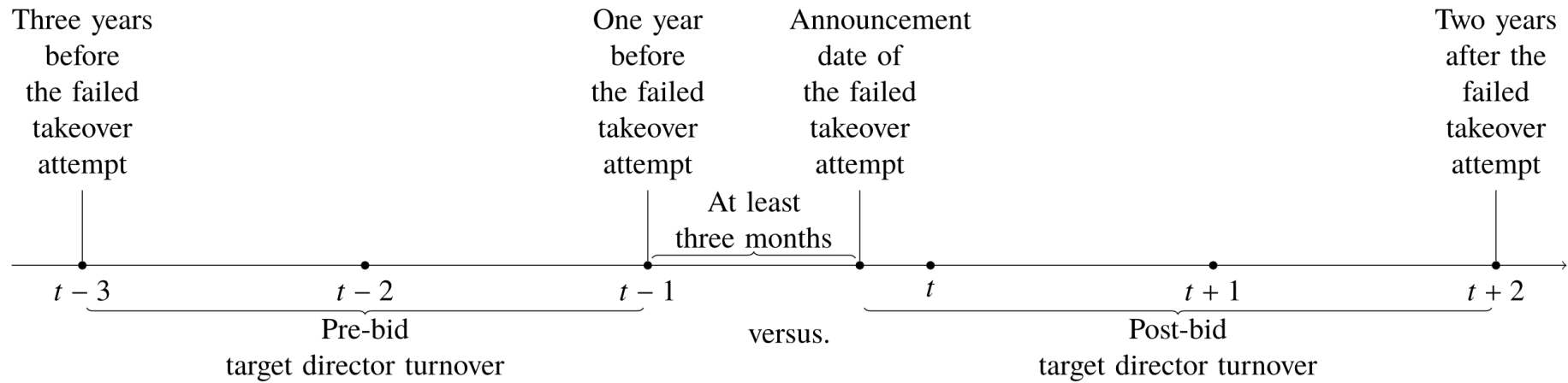
<i>Firm Size</i>	The natural logarithm of total assets
<i>Leverage</i>	Total liabilities divided by total owners' equity
<i>Market-to-Book</i>	The market value of equity divided by the book value of equity
<i>Operating Cash Flow</i>	Cash flow from operations divided by total assets
<i>Sales</i>	Sales divided by total assets

<i>Return-on-Assets</i>	Firm ROA minus industry median ROA
<i>Cumulative Abnormal</i>	One-year cumulative abnormal return
<i>Return</i>	

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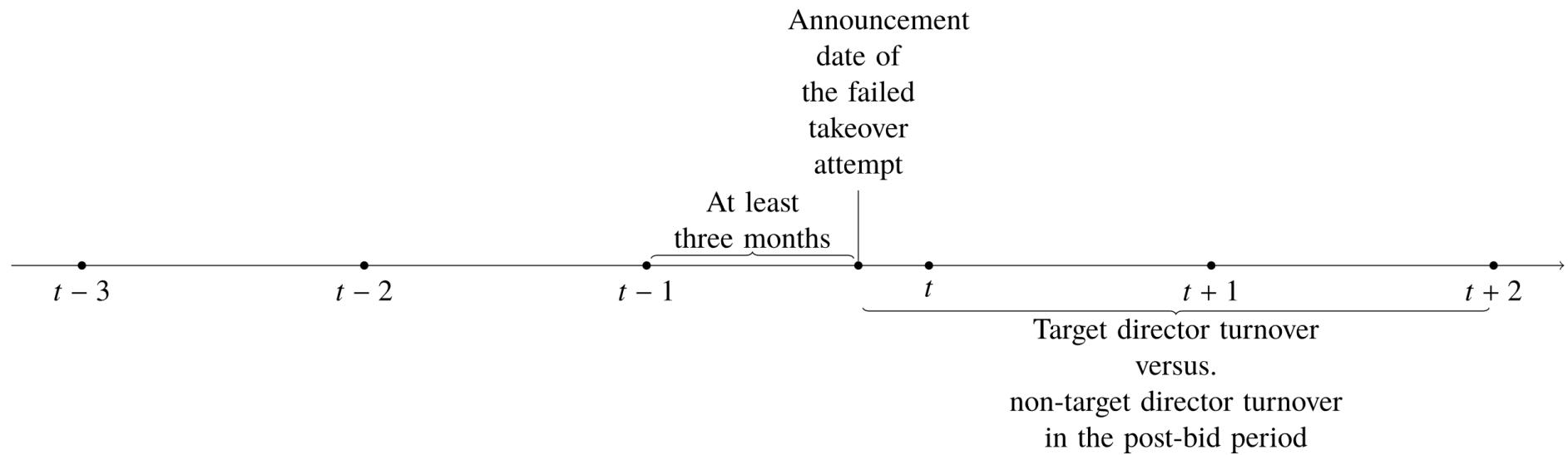
**Figure 1**

This figure shows the timeline for comparing director turnover and governance changes in target firms between the pre-bid and post-bid periods.



**Figure 2**

This figure shows the timeline for comparing director turnover and governance changes in target firms and propensity score matched non-target firms in the post-bid period.



**Table 1: Sample construction**

<b>Sample construction</b>	
Total bids between 2004 and 2017 in the Connect 4 Mergers and acquisitions database	1,117
Less: Successful bids	757
Remaining bids withdrawn and unsuccessful	360
Exclude:	
Takeovers with competing bids which succeed	120
Partial takeover	6
Rumor only	2
Takeovers with multiple unsuccessful bidders	22
Missing governance or financial data	43
<b>Final sample</b>	<b>167</b>

This table presents the construction process of our target firm sample.

**Table 2: Frequency of unsuccessful takeovers across year and industry**

<b>Panel A: Frequency of unsuccessful takeovers across year</b>		
<b>Year</b>	<b>Number</b>	<b>Percentage</b>
2004	8	4.79
2005	2	1.20
2006	15	8.98
2007	10	5.99
2008	21	12.57
2009	26	15.57
2010	11	6.59
2011	10	5.99
2012	10	5.99
2013	13	7.78
2014	11	6.59
2015	12	7.19
2016	11	6.59
2017	7	4.19
<b>Total</b>	<b>167</b>	<b>100</b>

<b>Panel B: Frequency of unsuccessful takeovers across industry of target firms</b>		
<b>GICS Industry</b>	<b>Number</b>	<b>Percentage</b>
Communication services	7	4.19
Consumer discretionary	13	7.78
Consumer staples	4	2.40
Energy	33	19.76
Financial	19	11.38
Health care	6	3.59
Industrials	8	4.79
Information technology	10	5.99
Materials	61	36.53
Real estate	3	1.80
Utilities	3	1.80
<b>Total</b>	<b>167</b>	<b>100</b>

Panel A reports the frequency of unsuccessful takeovers across year; Panel B reports the frequency of unsuccessful takeovers across industry of target firms.

**Table 3: The estimation of propensity score matching (PSM)****Panel A: The first-stage PSM regression**

	<i>TG</i>
	(1)
<i>Director Ownership</i>	1.993*** (3.818)
<i>Block Ownership</i>	1.338*** (3.789)
<i>Board Independence</i>	-2.520*** (-7.718)
<i>Director Tenure</i>	-0.152*** (-2.797)
<i>CEO Duality</i>	0.779* (1.666)
<i>Board Size</i>	0.402*** (8.208)
<i>Female Director</i>	-0.559 (-0.574)
<i>CEO Turnover</i>	0.294 (1.225)
<i>Firm Size</i>	0.047 (0.422)
<i>Leverage</i>	-0.345*** (-3.804)
<i>Market-to-Book</i>	-0.221*** (-3.396)
<i>Operating Cash Flow</i>	-1.932*** (-5.265)
<i>Sales</i>	-0.365*** (-3.365)
<i>Return-on-Assets</i>	-0.411*** (-5.311)
<i>Intercept</i>	-3.581* (-1.908)
N	2,733
Pseudo R-squared	0.263

**Panel B: Univariate comparisons between target firms and the PSM matched control group**

	TG=0	Mean	TG=1	Mean	Difference
<b>Governance Variables</b>					
<i>Director Ownership</i>	156	0.090	156	0.095	-0.006
<i>Block Ownership</i>	156	0.396	156	0.389	0.007
<i>Board Independence</i>	156	0.448	156	0.436	0.012
<i>Director Tenure</i>	156	3.008	156	2.910	0.098
<i>CEO Duality</i>	156	0.032	156	0.038	-0.006
<i>Board Size</i>	156	5.846	156	5.801	0.045
<i>Female Director</i>	156	0.048	156	0.047	0.001
<i>CEO Turnover</i>	156	0.160	156	0.167	-0.006
<b>Financial Variables</b>					
<i>Firm Size</i>	156	16.454	156	16.198	0.256
<i>Leverage</i>	156	0.517	156	0.472	0.045
<i>Market-to-Book</i>	156	1.682	156	1.509	0.173
<i>Operating Cash Flow</i>	156	-0.011	156	-0.058	0.047
<i>Sales</i>	156	0.428	156	0.370	0.057
<i>Return-on-Assets</i>	156	0.156	156	-0.041	0.197

Panel A presents the results of a logit regression estimated to derive the sample of propensity score matched non-target firms. Panel B presents the univariate comparisons of governance and financial variables used in the first-stage PSM process. Definitions of the variables are presented in Appendix A. The numbers reported in parentheses are *t*-statistics. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.



**Table 4: Summary statistics of the target sample in the post-bid period**

	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Dev.</b>
<b><i>Governance Variables</i></b>				
<i>Turnover</i>	167	0.850	1.000	0.358
<i>Turnover%</i>	167	0.508	0.429	0.375
<i>Director Ownership</i>	167	0.119	0.029	0.172
<i>Block Ownership</i>	167	0.465	0.471	0.220
<i>Board Independence</i>	167	0.511	0.600	0.305
<i>Director Tenure</i>	167	3.412	3.222	2.273
<i>CEO Duality</i>	167	0.030	0.000	0.171
<i>Board Size</i>	167	5.623	5.000	2.376
<i>Female Director</i>	167	0.058	0.000	0.103
<i>CEO Turnover</i>	167	0.275	0.000	0.448
<i>ΔDirector Ownership</i>	167	0.036	0.000	0.146
<i>ΔBlock Ownership</i>	167	0.094	0.062	0.231
<i>ΔBoard Independence</i>	167	0.062	0.000	0.318
<i>ΔDirector Expertise</i>	167	2.407	1.000	4.199
<i>ΔDirector Prestige</i>	167	-0.042	0.000	1.341
<b><i>Financial Variables</i></b>				
<i>Firm Size</i>	167	16.654	17.012	1.437
<i>Leverage</i>	167	0.460	0.406	0.483
<i>Market-to-Book</i>	167	1.605	1.093	1.569
<i>Operating Cash Flow</i>	167	-0.198	-0.012	1.103
<i>Sales</i>	167	0.350	0.085	0.413
<i>Return-on-Assets</i>	167	-0.024	0.014	0.183
<i>Cumulative Abnormal Return</i>	167	-0.048	-0.290	1.053

This table presents descriptive statistics of governance and financial characteristics for the sample of 167 unsuccessful target firms in their post-bid period. Definitions of the variables are presented in Appendix A.

**Table 5: Univariate analysis****Panel A: Target firms pre-bid vs. Target firms post-bid**

	UT=0	Mean	UT=1	Mean	Difference
<i>Turnover</i>	167	0.437	167	0.850	-0.413***
<i>Turnover%</i>	167	0.185	167	0.508	-0.323***
<b><i>Governance Variables</i></b>					
<i>Director Ownership</i>	167	0.106	167	0.119	-0.013
<i>Block Ownership</i>	167	0.400	167	0.465	-0.065***
<i>Board Independence</i>	167	0.416	167	0.511	-0.095***
<i>Director Tenure</i>	167	2.827	167	3.412	-0.585
<i>CEO Duality</i>	167	0.042	167	0.030	0.012
<i>Board Size</i>	167	5.880	167	5.623	0.257
<i>Female Director</i>	167	0.046	167	0.058	-0.012
<i>CEO Turnover</i>	167	0.174	167	0.275	-0.102
<b><i>Financial Variables</i></b>					
<i>Firm Size</i>	167	16.220	167	16.654	-0.433
<i>Leverage</i>	167	0.453	167	0.460	-0.007
<i>Market-to-Book</i>	167	1.530	167	1.605	-0.076
<i>Operating Cash Flow</i>	167	-0.083	167	-0.198	0.115
<i>Sales</i>	167	0.360	167	0.350	0.011
<i>Return-on-Assets</i>	167	-0.042	167	-0.024	-0.018
<i>Cumulative Abnormal Return</i>	167	-0.181	167	-0.048	-0.133

**Panel B: Target firms vs. PSM matched non-target firms in the post-bid period**

	TG=0	Mean	TG=1	Mean	Difference
<i>Turnover</i>	156	0.353	156	0.846	-0.494***
<i>Turnover%</i>	156	0.199	156	0.503	-0.304***
<b>Governance Variables</b>					
<i>Director Ownership</i>	156	0.080	156	0.115	-0.035*
<i>Block Ownership</i>	156	0.392	156	0.460	-0.068**
<i>Board Independence</i>	156	0.476	156	0.521	-0.045
<i>Director Tenure</i>	156	4.032	156	3.426	0.606***
<i>CEO Duality</i>	156	0.051	156	0.032	0.019
<i>Board Size</i>	156	5.506	156	5.654	-0.147
<i>Female Director</i>	156	0.060	156	0.060	-0.001
<i>CEO Turnover</i>	156	0.109	156	0.282	-0.173***
<b>Financial Variables</b>					
<i>Firm Size</i>	156	16.776	156	16.689	0.086
<i>Leverage</i>	156	0.740	156	0.473	0.267***
<i>Market-to-Book</i>	156	2.135	156	1.576	0.558**
<i>Operating Cash Flow</i>	156	0.132	156	-0.054	0.186***
<i>Sales</i>	156	0.598	156	0.361	0.237***
<i>Return-on-Assets</i>	156	0.376	156	-0.022	0.398**
<i>Cumulative Abnormal Return</i>	156	-0.309	156	-0.048	-0.261*

This table compares the mean value for the key variables for unsuccessful target firms between the pre-bid period ( $UT=0$ ) and post-bid period ( $UT=1$ ) in Panel A; the mean value for the key variables between PSM matched non-target firms ( $TG=0$ ) and unsuccessful target firms ( $TG=1$ ) in the post-bid period are presented in Panel B. Definitions of the variables are presented in Appendix A. The numbers reported in parentheses are t-statistics. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

**Table 6: Director turnover in target firms following unsuccessful takeovers**

	<i>Turnover</i>	<i>Turnover%</i>	<i>Turnover</i>	<i>Turnover%</i>
	(1)	(2)	(3)	(4)
<i>UT</i>	1.155*** (7.065)	0.291*** (7.980)	-	-
<i>TG</i>	-	-	1.331*** (7.362)	0.254*** (5.857)
<i>Director Ownership</i>	-0.998** (-1.983)	-0.219** (-2.078)	0.103 (0.195)	0.066 (0.506)
<i>Block Ownership</i>	0.803** (2.014)	0.121 (1.324)	0.697** (2.083)	0.096 (1.225)
<i>Board Independence</i>	0.022 (0.081)	0.141** (2.177)	0.736*** (2.674)	0.220*** (3.089)
<i>Director Tenure</i>	0.035 (0.850)	-0.040*** (-4.325)	-0.088* (-1.868)	-0.038*** (-3.015)
<i>CEO Duality</i>	0.122 (0.285)	0.001 (0.012)	0.162 (0.406)	-0.014 (-0.153)
<i>Board Size</i>	0.047 (1.231)	-0.041*** (-5.264)	0.072* (1.647)	-0.034*** (-3.435)
<i>Female Director</i>	0.157 (0.165)	0.118 (0.514)	0.422 (0.460)	0.303 (1.205)
<i>CEO Turnover</i>	0.433** (2.022)	0.128*** (2.915)	0.199 (0.873)	0.082 (1.634)
<i>Firm Size</i>	0.102*** (2.663)	0.015** (2.268)	0.095 (1.344)	-0.023 (-1.243)
<i>Leverage</i>	0.006 (0.029)	0.048 (1.023)	0.110 (0.987)	0.037 (1.201)
<i>Market-to-Book</i>	-0.003 (-0.068)	-0.006 (-0.538)	-0.021 (-0.459)	-0.013 (-1.123)
<i>Operating Cash Flow</i>	-0.045 (-0.612)	-0.020* (-1.769)	-0.023 (-0.079)	0.044 (0.482)
<i>Sales</i>	-0.351 (-1.408)	-0.082 (-1.421)	-0.170 (-1.340)	-0.036 (-1.088)
<i>Return-on-Assets</i>	0.595 (1.249)	0.135 (1.095)	-0.017 (-0.230)	0.002 (0.102)
<i>Intercept</i>	-2.373*** (-3.495)	0.199 (1.590)	-2.665** (-2.224)	0.764** (2.473)
N	334	334	312	312
Adj./Pseudo R-squared	0.222	0.312	0.271	0.225

This table presents the results of examining post- bid director turnover within unsuccessful target firms. The dependent variable is *Turnover* in Columns (1) and (3) and *Turnover %* in Columns (2) and (4). The results for the independent variable *UT* are presented in Columns (1) and (2), and those for *TG* are presented in Columns (3) and (4). Definitions of the variables are presented in Appendix A. The numbers reported in parentheses are *t*-statistics. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

**Table 7: Changes in director expertise and prestige in target firms in the post-bid period**

	Target firms in the pre-bid vs. post-bid periods		Target firms vs. PSM matched firms in the post-bid periods	
	$\Delta$ Director Expertise	$\Delta$ Director Prestige	$\Delta$ Director Expertise	$\Delta$ Director Prestige
	(1)	(2)	(3)	(4)
<i>UT</i>	-1.704*** (-2.892)	-0.476* (-1.860)	-	-
<i>TG</i>	-	-	2.015*** (3.964)	0.095 (1.062)
<i>Director Ownership</i>	-0.932 (-0.867)	-0.040 (-0.116)	-0.647 (-0.582)	-0.175 (-0.683)
<i>Block Ownership</i>	-1.176 (-1.049)	-0.118 (-0.260)	-0.035 (-0.046)	0.230 (1.078)
<i>Board Independence</i>	-1.952*** (-2.752)	0.582* (1.932)	-1.157 (-1.494)	0.079 (0.560)
<i>Director Tenure</i>	0.382*** (4.785)	0.024 (0.963)	0.112 (1.263)	0.009 (0.437)
<i>CEO Duality</i>	-0.902 (-1.087)	0.059 (0.081)	0.626 (0.828)	-0.028 (-0.083)
<i>Board Size</i>	0.203 (1.332)	0.227** (2.134)	0.154 (1.075)	0.060* (1.947)
<i>Female Director</i>	1.164 (0.417)	0.515 (0.529)	-2.831 (-1.345)	-0.557 (-0.989)
<i>CEO Turnover</i>	-0.589 (-1.028)	-0.342 (-1.322)	-0.348 (-0.566)	-0.002 (-0.014)
<i>Director Change</i>	2.688*** (4.440)	0.109 (0.447)	1.061** (2.082)	-0.129 (-1.612)
<i>Firm Size</i>	0.034 (0.445)	0.012 (0.249)	0.015 (0.068)	0.024 (0.547)
<i>Leverage</i>	-0.866 (-1.619)	-0.516* (-1.938)	-0.205 (-1.021)	-0.142** (-2.099)
<i>Market-to-Book</i>	0.089 (0.697)	-0.007 (-0.160)	0.095 (0.882)	0.018 (0.850)
<i>Operating Cash Flow</i>	-0.016 (-0.127)	0.031 (0.627)	-0.695 (-1.165)	0.032 (0.216)
<i>Sales</i>	-0.174 (-0.292)	0.127 (0.521)	0.203 (0.824)	0.067 (0.840)
<i>Return-on-Assets</i>	2.303* (1.764)	0.158 (0.398)	0.129 (0.807)	-0.048 (-0.755)
<i>Intercept</i>	0.875 (0.591)	-1.177 (-1.294)	-1.219 (-0.354)	-0.794 (-0.992)
N	334	334	312	312
Adjusted R-squared	0.164	0.105	0.082	0.002

This table presents the results for changes in director expertise and prestige post-bid for unsuccessful target firms. The dependent variables are  $\Delta$ Director Expertise in Columns (1) and (3) and  $\Delta$ Director Prestige in Columns (2) and (4) respectively. The results for the independent variable *UT* are presented in Columns (1) and (2), and those for *TG* are presented in Columns (3) and (4). Definitions of the variables are presented in Appendix A. The numbers reported in parentheses are *t*-statistics. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

**Table 8: Other governance changes in target firms in the post-bid period**

	Target firms in the pre-bid vs. post-bid periods			Target firms vs. PSM matched firms in the post-bid periods		
	$\Delta$ Director Ownership	$\Delta$ Block Ownership	$\Delta$ Board Independence	$\Delta$ Director Ownership	$\Delta$ Block Ownership	$\Delta$ Board Independence
	(1)	(2)	(3)	(4)	(5)	(6)
<i>UT</i>	0.046*** (3.006)	0.061*** (3.037)	0.082** (2.294)	-	-	-
<i>TG</i>	-	-	-	0.048*** (2.667)	0.116*** (3.911)	0.019 (0.580)
<i>Director Ownership</i>	-	0.030 (0.347)	-0.125 (-1.239)	-	0.118 (1.134)	-0.064 (-0.680)
<i>Block Ownership</i>	0.052 (1.410)	-	0.207** (2.255)	0.039 (1.088)	-	0.047 (0.745)
<i>Board Independence</i>	-0.003 (-0.098)	0.010 (0.286)	-	-0.023 (-0.898)	-0.008 (-0.167)	-
<i>Director Tenure</i>	-0.006* (-1.840)	-0.004 (-1.010)	-0.014* (-1.859)	-0.018*** (-3.838)	-0.003 (-0.401)	-0.025*** (-3.064)
<i>CEO Duality</i>	0.025 (0.501)	0.133*** (2.882)	-0.099 (-1.552)	0.000 (0.018)	0.069 (1.386)	-0.032 (-0.426)
<i>Board Size</i>	-0.007*** (-2.662)	0.012** (2.311)	-0.025*** (-3.002)	-0.003 (-0.949)	0.021*** (3.405)	-0.014 (-1.438)
<i>Female Director</i>	-0.003 (-0.053)	0.255** (2.265)	0.120 (0.634)	-0.121 (-1.533)	0.008 (0.057)	0.047 (0.276)
<i>CEO Turnover</i>	0.022 (1.117)	0.050* (1.672)	0.015 (0.351)	0.002 (0.097)	0.019 (0.462)	0.037 (0.795)
<i>Firm Size</i>	0.001 (0.283)	0.006 (1.429)	-0.000 (-0.003)	0.007 (1.119)	0.017 (1.418)	0.001 (0.082)
<i>Leverage</i>	-0.001 (-0.036)	-0.002 (-0.089)	0.004 (0.098)	-0.001 (-0.072)	-0.045* (-1.956)	0.015 (0.794)
<i>Market-to-Book</i>	-0.002 (-0.508)	-0.000 (-0.062)	0.008 (0.664)	-0.000 (-0.089)	0.016** (2.034)	-0.001 (-0.136)
<i>Operating Cash Flow</i>	0.004 (0.755)	-0.007 (-0.992)	0.033** (2.163)	-0.030 (-0.984)	0.066 (1.388)	0.002 (0.023)
<i>Sales</i>	0.048** (2.057)	0.014 (0.495)	0.065 (1.353)	0.014 (1.526)	0.045*** (2.776)	0.010 (0.519)
<i>Return-on-Assets</i>	-0.080 (-1.627)	0.154*** (2.763)	0.050 (0.468)	0.007 (0.859)	-0.012 (-1.355)	0.005 (0.441)
<i>Intercept</i>	-0.005 (-0.130)	-0.166** (-2.124)	0.048 (0.422)	-0.051 (-0.512)	-0.454** (-2.260)	0.147 (0.521)
N	334	334	312	312	312	312
Adjusted R-squared	0.033	0.126	0.051	0.077	0.110	0.003

This table presents the results for governance changes within unsuccessful takeover firms. The dependent variables are  $\Delta$ Director Ownership in Columns (1) and (4),  $\Delta$ Block Ownership in Columns (2) and (5), and  $\Delta$ Board Independence in Columns (3) and (6). The results for the independent variable *UT* are presented in Columns (1) to (3), and those for *TG* are presented in Columns (4) to (6). Definitions of the variables are presented in Appendix A. The numbers reported in parentheses are t-statistics. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

**Table 9: The relation between governance changes and post-bid performance**

	Target firms in the pre-bid vs. post-bid periods		Target firms vs. PSM matched firms in the post-bid periods	
	(1) <i>Return-on-Assets</i>	(2) <i>Cumulative Abnormal Return</i>	(3) <i>Return-on-Assets</i>	(4) <i>Cumulative Abnormal Return</i>
<i>UT</i>	-0.045 (-1.045)	-0.387* (-1.886)	-	-
<i>TG</i>	-	-	0.235 (1.114)	0.091 (0.400)
<i>Turnover</i>	-0.008 (-0.249)	-0.200 (-1.070)	-0.192 (-0.713)	0.096 (0.379)
<i>ΔDirector Ownership</i>	-0.171 (-1.185)	-0.679 (-0.992)	0.463 (0.537)	0.625 (0.612)
<i>ΔBlock Ownership</i>	0.183** (2.011)	0.300 (0.787)	-0.455 (-1.356)	0.683 (1.173)
<i>ΔBoard Independence</i>	0.008 (0.155)	0.119 (0.436)	0.411 (1.101)	-0.484 (-1.092)
<i>ΔDirector Expertise</i>	0.001 (0.201)	0.018 (0.835)	0.021 (0.658)	0.049* (1.790)
<i>ΔDirector Prestige</i>	-0.005 (-1.346)	-0.024 (-1.095)	-0.157 (-0.428)	-0.493 (-1.493)
<i>UT×Turnover</i>	0.054 (1.064)	0.676** (2.554)	-	-
<i>UT×ΔDirector Ownership</i>	0.008 (0.050)	0.076 (0.088)	-	-
<i>UT×ΔBlock Ownership</i>	-0.032 (-0.305)	-0.207 (-0.404)	-	-
<i>UT×ΔBoard Independence</i>	-0.005 (-0.071)	-0.170 (-0.456)	-	-
<i>UT×ΔDirector Expertise</i>	0.004 (0.837)	-0.046 (-1.632)	-	-
<i>UT×ΔDirector Prestige</i>	0.008 (1.296)	0.091** (2.073)	-	-
<i>TG×Turnover</i>	-	-	0.354 (1.024)	0.266 (0.840)
<i>TG×ΔDirector Ownership</i>	-	-	-1.137 (-1.192)	-1.174 (-1.054)
<i>TG×ΔBlock Ownership</i>	-	-	0.615 (1.247)	-0.184 (-0.281)
<i>TG×ΔBoard Independence</i>	-	-	-0.402 (-0.885)	0.410 (0.777)
<i>TG×ΔDirector Expertise</i>	-	-	-0.055 (-1.354)	-0.073** (-2.235)
<i>TG×ΔDirector Prestige</i>	-	-	0.246 (0.636)	0.595* (1.772)
<i>Director Tenure</i>	-0.010* (-1.967)	0.036 (1.200)	0.017 (0.428)	0.009 (0.270)
<i>CEO Duality</i>	-0.003 (-0.093)	-0.211 (-0.875)	0.017 (0.061)	-0.673*** (-3.196)
<i>Board Size</i>	0.005 (1.020)	-0.020 (-0.590)	0.213*** (4.438)	-0.050 (-1.388)
<i>Female Director</i>	-0.034 (-0.347)	-0.054 (-0.089)	0.579 (0.726)	-0.391 (-0.591)
<i>CEO Turnover</i>	-0.009 (-0.392)	0.008 (0.051)	-0.204 (-1.354)	-0.130 (-0.865)
<i>Firm Size</i>	0.006 (1.226)	0.005 (0.262)	-0.088 (-1.300)	0.056 (0.903)
<i>Leverage</i>	0.048* (1.891)	-0.060 (-0.333)	-0.002 (-0.013)	0.262 (1.472)
<i>Market-to-Book</i>	-0.014* (-1.909)	0.060 (1.252)	-0.000 (-0.004)	0.055 (1.224)
<i>Operating Cash Flow</i>	0.033 (0.859)	-0.027 (-0.433)	2.042*** (4.653)	-0.122 (-0.473)
<i>Sales</i>	0.061** (2.220)	0.210 (1.343)	0.030 (0.169)	-0.082 (-0.828)
<i>Intercept</i>	-0.132* (-1.879)	-0.218 (-0.554)	0.371 (0.322)	-1.208 (-1.180)
Observations	334	334	312	312
Adj. R <sup>2</sup>	0.118	-0.029	0.403	0.050

This table presents the results for the relation between firm performance and governance changes for target firms post-bid using Models (7) and (8), respectively. The dependent variables are *Return-on-Assets* in Columns (1) and (3) and *Cumulative Abnormal Return* in Columns (2) and (4). The results for the independent variable *UT* in Model (7) are presented from Columns (1) and (2) and those for *TG* in Model (8) are presented from Columns (3) and (4). Definitions of the variables are presented in Appendix A. The numbers reported in parentheses are t-statistics. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.



**Table 10: Non-executive director, executive director, and CEO turnover in target firms following unsuccessful takeovers**

**Panel A: Executive and non-executive director turnover**

	<i>Non-Executive Director Turnover</i>	<i>Executive Director Turnover</i>	<i>Non-Executive Director Turnover</i>	<i>Executive Director Turnover</i>
	(1)	(2)	(3)	(4)
<i>UT</i>	0.425*** (2.628)	0.871*** (3.793)	-	-
<i>TG</i>	-	-	0.107 (0.609)	0.656*** (3.013)
Controls	YES	YES	YES	YES
N	334	334	312	312
Adjusted R-squared	0.130	0.108	0.101	0.094

**Panel B: Executive and non-executive director turnover%**

	<i>Non-Executive Director Turnover%</i>	<i>Executive Director Turnover%</i>	<i>Non-Executive Director Turnover%</i>	<i>Executive Director Turnover%</i>
	(1)	(2)	(3)	(4)
<i>UT</i>	0.127*** (3.964)	0.116*** (4.340)	-	-
<i>TG</i>	-	-	0.081** (2.115)	0.105*** (3.276)
Controls	YES	YES	YES	YES
N	334	334	312	312
Adjusted R-squared	0.057	0.085	0.042	0.063

**Panel C: CEO turnover**

	<i>CEO Turnover</i>	
	(1)	(2)
<i>UT</i>	0.387** (2.305)	-
<i>TG</i>	-	0.607*** (3.097)
Controls	YES	YES
N	334	312
Adjusted R-squared	0.040	0.069

This table presents the results of examining post- bid non-executive director, executive director, and CEO turnover within unsuccessful target firms. The dependent variable in Panel A is non-executive director turnover in Columns (1) and (3) and executive director turnover in Columns (2) and (4). The dependent variable in Panel B is non-executive director turnover percentage in Columns (1) and (3) and executive director turnover percentage in Columns (2) and (4). The dependent variable in Panel C is CEO turnover. Definitions of the variables are presented in Appendix A. The numbers reported in parentheses are *t*-statistics. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.