

Non-executive directorship importance and takeover hostility: Australian evidence

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Abstract

This study investigates the importance of the target firm directorship to target firm non-executive directors during takeovers. Using Australian data and a size-based measure of directorship importance, we find a positive association between takeover hostility and directorship importance after controlling for takeover premiums and target firm size. Further analysis reveals that directorship importance leads to a greater likelihood of offer price revisions following initial rejection of a takeover bid, but not the likelihood of bid success. Our findings are consistent with target firm non-executive directors exhibiting self-serving behaviour at directorships which they consider more important to their reputation.

KEYWORDS

director incentives, directorship importance, mergers and acquisitions, takeover

JEL CLASSIFICATION

D23, G30, G34

1 | INTRODUCTION

An emerging stream of literature has examined how the importance of a directorship to non-executive directors (NEDs) influences their behaviour. For example, Masulis and Mobbs (2014) find that board attendance, participation in time-consuming sub-committees and firm

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performance improve when NEDs perceive a directorship as more important. Furthermore, NEDs are less likely to relinquish their most important directorships, even when firm performance is deteriorating. Masulis and Mobbs (2016) extend this body of literature by arguing that a directorship's importance leads to a higher frequency of shareholder-friendly actions including: share repurchases, dividend increases and share splits. More recent evidence shows that a higher proportion of directors with low reputation incentives leads to lower accruals quality and higher audit fees (Bryan & Mason, 2020). Similarly, firms with a larger proportion of audit committee members where the membership is the most important are associated with greater financial reporting quality (Khoo et al., 2020). Directorship importance also appears to be considered externally, as evidence shows that banks price directors' attention by offering lower borrowing costs to firms that are the most prestigious to the majority of their directors (Huang et al., 2018).

Larger directorships are also more visible (Knyazeva et al., 2013), prestigious (Fahlenbrach et al., 2010; Masulis & Mobbs, 2014) and provide a greater proportion of compensation to NEDs (Ryan & Wiggins, 2004; Yermack, 2004). As such, it is contended that NEDs do not perceive their directorships equally and are likely to devote a greater proportion of their time towards larger directorships which provide them with substantial reputational capital. Supporting this conjecture, prior research shows that NEDs have a strong incentive to preserve and promote their reputational capital in order to attract future board seats (Fama & Jensen, 1983; Harford & Schonlau, 2013).¹ Additionally, directors of companies which: reduce dividends (Kaplan & Reishus, 1990), are involved in shareholder class-action lawsuits (Fich & Shivdasani, 2007), earnings restatements or financial fraud (Fich & Shivdasani, 2007; Srinivasan, 2005) and option backdating (Ertimur et al., 2012) receive fewer subsequent directorships.

Although Masulis and Mobbs (2014, 2016) find that outcomes for shareholders improve with the importance of a NED's directorship, this relation may not hold for target firms in mergers and acquisitions (M&As). Given that target NEDs are able to use their influence to alter takeover outcomes (Eddey & Casey, 1989; Henry, 2004), our paper examines whether NEDs are more or less likely to be hostile at their most important directorship after controlling for takeover premiums and target firm size.

This study is motivated by the tension which exists in the literature as to whether target NEDs make recommendations during a takeover which serve their own interests or those of target shareholders. On the one hand, NEDs have been described as acting in self-interest and Walkling and Long (1984) find that target NED's hostility to a takeover is inversely related to their level of ownership (i.e., personal wealth gains) in the target firm. These results are supported in other settings such as the United Kingdom (O'Sullivan & Wong, 1998) and Australia (Henry, 2005). Furthermore, both Walkling and Long (1984) and Henry (2005) find no relation between takeover hostility and bid premiums. This suggests that recommendations made by target NEDs are perhaps driven by factors other than the bid premium offered to target shareholders.

We contend that upon receiving a takeover offer, target NEDs are more likely to be hostile at their most important directorships due to the financial (Harford, 2003) and non-financial benefits (Bebchuk & Fried, 2004) associated with important board seats. For example, important directorships not only provide NEDs with significant remuneration (Durkin, 2016); they are also a source of valuable business contacts (Bebchuk & Fried, 2004) and provide significant reputational benefits. Additionally, important directorships provide NEDs with opportunities to accumulate valuable experience (Fahlenbrach et al., 2010; Knyazeva et al., 2013).

¹This is supported by a survey of 193 company directors, conducted by EisnerAmper LLP, which found that reputation is the most important non-financial risk to directors. The survey can be accessed at: <http://www.eisneramper.com/IT-Risk-Management-0512.aspx>

These benefits are particularly significant in the Australian context as Australian NEDs are generally compensated with fixed cash amounts rather than equity (Bugeja et al., 2016b). This compensation structure restricts target NED ownership and as a result NEDs are less likely to experience a large wealth gain from accepting a takeover premium. In consequence, target NEDs have a strong incentive to be hostile at their most important directorships in order to preserve the prestige and reputational benefits accruing from that board seat.²

On the other hand, even if NEDs act in their own interest, it is possible that NEDs are less hostile at their most important directorships due to the post-merger benefits associated with a successful takeover. First, Harford and Schonlau (2013) find that the director labour market values a target firm CEO's acquisition experience over their acquisition performance and they are not penalised for negotiating a lower premium with fewer future board seats. In the context of M&As, this argument suggests that target NEDs have a strong incentive to ensure that takeovers succeed. Second, target NEDs may also be less hostile given that active cooperation by NEDs with the bidding firm may increase the likelihood that the NED is offered a board seat on the merged firm. This argument is supported by Wang et al. (2010) and Bugeja et al. (2019) who find an inverse relation between bid premiums and target NED representation on the post-merger board.

In contrast to the self-interest perspective outlined above, Fama and Jensen (1983) develop a theoretical framework which implies that, during an M&A, target NEDs do not willingly allow wealth to be transferred from target to bidding firm shareholders. A limited amount of empirical evidence supports this framework. For example, Eddey and Casey (1989) find that target NEDs act in shareholders' interests by recommending acceptance of takeover offers with substantial bid premiums. Additionally, the issuance of an accept recommendation is linked to cases where the bidder has a larger toehold and thus a greater chance of forcing small shareholders into a locked-in minority. This argument is supported by Cotter et al., (1997) who find that target NEDs improve target shareholder outcomes in a tender offer.

The Australian M&A setting is particularly suitable to test the link between a directorship's importance to target NEDs and hostility for a number of reasons. First, Australia has a greater number of hostile takeovers when compared with other developed market economies. For example, Bugeja et al. (2009) report that 41 percent of Australian target boards recommend rejection of the takeover offer. This contrasts with the United States where approximately 2–4 percent of takeovers are hostile (Heitzman, 2011; Lin et al., 2011). Second, the regulatory framework in Australia places the same high duty of care on both executive and non-executive directors (Corporations Act, 2001; Lucy, 2006). Third, the Australian Corporations Act (2001) s.638 requires the target firm to explicitly recommend whether the offer should be accepted or rejected. Thus, there is no need to infer whether the deal is hostile.³

Our analysis examines Australian takeovers for publicly listed targets announced in the years 2004–2016. We use annual reports to identify a NED's other listed directorships, share ownership and compensation. Directorship importance is measured as the average of the ratio for each NED on the target firm board, of the target's market capitalisation to the sum of the market capitalisations of all the NED's listed directorships. This measure of a directorship's importance is then regressed against an indicator variable equal to one if the target is hostile and zero otherwise. We also investigate the relation between a directorship's importance to target NEDs and offer price revisions and takeover outcome. Given that offer price revisions

²The framework developed by Manne (1965) indicates that the agent will only take actions to benefit the principal whilst disadvantaging themselves when they receive some form of *quid pro quo*.

³The Corporations Act (2001) also requires directors to give the reasons for their recommendations including the reasoning behind not providing a recommendation.

take place following the initial rejection of a takeover offer, we also test the relation between offer price revisions and the interaction of hostility and directorship importance. In robustness testing we use alternative measures of directorship importance and the conclusions from our results remain unchanged.⁴

We find a positive association between the importance of a directorship to target NEDs and takeover hostility. This relation exists after controlling for takeover premiums, target firm size and the industry distribution of the sample. We control for target firm size to alleviate the possibility that our key test measure proxies for the influence of target firm size and the associated increased effect of heightened bargaining power on takeover hostility. Prior research has also documented that smaller target firms receive higher takeover premiums (Alexandridis et al., 2013; Simonyan, 2014). Hence, a possible conclusion from our initial findings is that target NEDs appear to be highly protective of their most important directorships and recommend the rejection of takeover bids to perhaps protect the compensation and reputational benefits associated with important board seats. Alternatively, the positive association suggests that NEDs at their most important directorship reject takeover bids which are perceived to undervalue the target firm as part of a strategy to increase the offer price. We further explore these two competing explanations in our analysis.

To provide some evidence on whether takeover hostility at their most important directorship is driven by an incentive to retain their most important directorship, we then analyse the association between revisions in offer price and target directorship importance. The results document no significant relation between the importance of a directorship to target NEDs and changes in offer price. The absence of a significant relation suggests that target NEDs do not diligently negotiate offer price revisions with the bidder, given that increases in the offer significantly increase the likelihood of a takeover offer succeeding (Henry, 2004). However, when we interact the directorship importance variable with takeover hostility, we document a positive and significant relation with offer price revisions. This result suggests that when a directorship is more important to them, NEDs are more likely to act in the best interests of shareholders by rejecting the initial bid and negotiating a subsequent offer price revision.

Although we find that NEDs negotiate a change in offer price at their most important directorship, analysis of the takeover outcome shows that there is only a marginal negative significant relation between the director importance measure and outcome, but no relation on the interaction between directorship importance and takeover hostility. These findings raise concerns that target directorship importance results in a final takeover outcome, which is not in the interest of target shareholders. This result is inconsistent with the findings in Masulis and Mobbs (2014, 2016) which show that directorship importance has a positive effect on NED actions. We also find no significant association between target NED importance and takeover premiums but do observe a negative association with cumulative abnormal announcement returns for target firms.⁵ This result is consistent with target firm NEDs not acting in shareholders' interests.

A number of sensitivity tests are conducted to examine the robustness of the results to numerous variable and sample specifications. First, we use alternative measures of the key directorship importance variable and include different controls in our tests to verify the robustness of the conclusions from our results. Second, our results are robust to the winsorising of continuous variables at the 5th and 95th percentiles and removing the global financial

⁴These robustness tests are described in Section 4.2.

⁵We use an event window of 60 days prior to the takeover announcement and 10 days post-announcement to measure abnormal returns to capture any information leakage leading up to the takeover announcement (Aspris et al., 2014) Shorter windows of 3- and 5-day CARs show no results, possibly due to information leakage.

crisis (GFC) years 2008 and 2009. Third, we perform our analysis using compensation-based, rather than size-based measures, of directorship importance. Consistent with Masulis and Mobbs (2014), this significantly weakens the results and suggests that directors are motivated by the reputation, and not compensation, received from their directorships. Finally, we examine the role of the importance of the directorship to the chair of the board and find insignificant results.

This paper contributes to the literature by empirically examining the relation between a directorship's importance to target NEDs and takeover hostility. Our results augment prior literature, examining the concept of directorship importance, by providing evidence illustrating that directorship importance impacts NED behaviour in the context of target firms in M&As. Overall, our results are inconsistent with both Masulis and Mobbs (2014) and Fama and Jensen's (1983) theoretical framework which implies that NEDs have incentives to be effective monitors and advisors. Our findings are consistent with NEDs exhibiting self-serving behaviour in M&As (Walkling & Long, 1984) at their most important directorship by recommending takeover rejection, which ultimately leads to takeover failure despite negotiating a higher offer price.

Last, our sensitivity testing contributes to the debate as to whether NEDs are motivated by relative compensation or firm size. Masulis and Mobbs (2014) suggest that compensation is not a significant source of motivation for NEDs. The results of this paper support these findings given that our sensitivity analysis indicates that importance measures based on relative compensation are generally less significant. The absence of a significant finding on compensation is possibly driven by the large personal wealth of NEDs or the indirect monetary gain NEDs can receive from the networking that this directorship provides. Hence, target NEDs appear to draw director reputation incentives from their largest directorships.

The remainder of this paper is organised as follows. Section 2 discusses our data sources and the sample's construction. Section 3 outlines our research method and main findings, Section 4 details our sensitivity testing and conclusions are presented in Section 5.

2 | SAMPLE AND DESCRIPTIVE STATISTICS

M&As announced for listed companies on the ASX between 1 January 2004 and 31 December 2016 were downloaded from the Connect 4 Mergers and Acquisitions database. This resulted in an initial sample of 1056 takeovers of publicly listed target companies. Given that the models require data for several bidding firm controls, 614 takeovers with unlisted bidders were removed from the sample.⁶ Fourteen observations were deleted due to missing data resulting in a final sample of 422 takeovers. A breakdown of the sample selection process is provided in Panel A of Table 1.

Market capitalisation, the number of shares outstanding, details required to calculate the bidder and target firm financial controls were extracted from the Morningstar DatAnalysis Premium database with missing observations hand collected from the relevant company's annual report. M&A related data on deal characteristics were extracted from the Connect 4 Mergers and Acquisitions database and any missing observations and offer price details were manually collected from the takeover statements. Share prices were obtained from a combination of the Morningstar DatAnalysis Premium database and the SIRCA Australian share price database. Target director and CEO share ownership in the target firm were hand collected from annual reports.

⁶As data is unavailable for a target NED's unlisted directorships, we cannot incorporate these directorships into the measures of directorship importance. Since private directorships are typically small enterprises, this data restriction is unlikely to limit our results.

TABLE 1 Sample selection and distribution by year and industry

Panel A: Sample selection													
Takeover bids in the Connect 4 database												1,056	
Deletions													
Bidder unlisted												-614	
Missing required data												-20	
Final sample												422	
Panel B: Frequency of takeovers by year and target firm industry (GICS)													
Year	G10	G15	G20	G25	G30	G35	G40	G45	G50	G55	G60	Total	%
2004	0	7	4	2	2	7	7	1	0	0	0	30	7
2005	1	5	4	5	4	2	2	2	1	0	0	26	6
2006	4	11	2	10	0	2	7	4	1	4	0	45	11
2007	8	15	2	7	1	4	11	2	4	1	0	55	13
2008	11	10	1	2	1	2	5	3	3	0	0	38	9
2009	7	22	3	2	0	2	3	2	1	0	0	42	10
2010	8	16	1	2	1	0	1	1	1	0	0	31	7
2011	4	9	0	2	0	0	5	1	0	1	0	22	5
2012	4	20	2	1	0	0	4	1	0	0	0	32	8
2013	4	12	2	0	1	0	9	1	1	2	0	32	8
2014	5	13	0	0	0	0	5	0	1	1	0	25	6
2015	3	6	1	2	1	1	1	1	3	1	3	23	5
2016	1	6	4	3	0	0	4	0	2	1	0	21	5
Total	60	152	26	38	11	20	64	19	18	11	3	422	100
%	14%	36%	6%	9%	3%	5%	15%	5%	4%	2%	1%	100%	

Panel B of [Table 1](#) provides a breakdown of the sample by year and two-digit Global Industry Classification Standard (GICS) industry codes. The results demonstrate that the sample is not heavily concentrated in any particular year, with the highest frequency in 2007 (13%) and the lowest in 2011 and 2016 (5%). This result is intuitive given that 2007 was a period of rapid equity value growth in Australia immediately prior to the onset of the GFC. The findings illustrate that the materials industry (G15), which comprises 36 percent of the sample, has the greatest representation. This result reflects the Australian context which is heavily dominated by mining companies. The industries with the smallest representation in the sample are real estate (G60), utilities (G55) and consumer staples (G30). To control for the effects of industry in the main results, we include industry fixed effects in all our tests as well as employing robust standard errors clustered by industry. We also control for the dominance of the materials sector in additional analysis with the inclusion of an indicator variable denoting target firms in the materials industry. The sensitivity of our results to the exclusion of different industry sectors are discussed in Section 4.8.

Descriptive statistics are presented in [Table 2](#) and all variable definitions are provided in the [Appendix](#).

Panel A of [Table 2](#) provides descriptive statistics for the dependent variables. The mean bid premium is 32 percent while the median is 24 percent. This is comparable to other Australian studies conducted by Henry (2004, 2005) and Bugeja et al. (2017). The target firm cumulative abnormal return around the takeover announcement has a mean of 36 percent, whilst 25 percent of the target firms are hostile to the takeover. This result is slightly lower than that

TABLE 2 Descriptive statistics

Variable	N	Mean	Median	SD	Min	Max
Panel A: Dependent variables						
<i>Premfour</i>	422	0.32	0.24	0.47	-0.79	5.50
<i>CAR71</i>	422	0.36	0.20	1.51	-0.77	26.78
<i>Hostile</i>	422	0.25	0.00	0.44	0.00	1.00
<i>Cop</i>	422	0.16	0.00	0.37	0.00	1.00
<i>RevisionRatio</i>	422	1.05	1.00	0.20	1.00	4.00
<i>Outcome</i>	422	0.66	1.00	0.47	0.00	1.00
Panel B: Key independent (test) variables						
<i>Avrsize</i>	422	0.68	0.71	0.25	0.01	1.00
Panel C: Deal controls						
<i>Toehold</i>	422	0.10	0.00	0.15	0.00	0.87
<i>Mult</i>	422	0.14	0.00	0.35	0.00	1.00
<i>Payt</i>	422	0.28	0.00	0.45	0.00	1.00
Panel D: Target firm controls						
<i>Targetmb</i>	422	1.31	1.61	26.52	-534.07	53.63
<i>Targetlev</i>	422	1.13	0.39	3.34	-23.98	41.18
<i>Targetroa</i>	422	-0.44	-0.01	4.80	-96.30	0.64
<i>Targetmktcap (\$m)</i>	422	530	55.1	1,848	0.169	193,197
<i>Targetnedownership</i>	422	0.07	0.01	0.14	0.00	0.86
<i>Targetnedperc</i>	422	0.73	0.75	0.15	0.00	1.00
<i>Targetceownership</i>	422	0.03	0.00	0.07	0.00	0.58
Panel E: Bidding firm controls						
<i>Bidfcf</i>	422	-0.07	-0.02	0.64	-5.77	6.44
<i>Bidlev</i>	422	1.48	0.51	3.69	-1.97	33.10
<i>Bidmb</i>	422	2.50	1.83	3.18	-4.76	38.79
<i>Biddirectorown</i>	422	0.10	0.00	0.15	0.00	0.80
<i>Biddermktcap (\$m)</i>	422	3,319	302	14,997	1.55	193,198

Note: All variables are defined in the [Appendix](#).

presented by Bugeja et al. (2017) and is likely a result of the removal of all M&As with unlisted bidders from the sample. Further, 16 percent of firms (two-thirds of hostile takeovers) experience a change in offer price with a revision ratio of 1.05 on average, and 66 percent of the sample's takeovers are successful.

Panel B of [Table 2](#) reports the descriptive statistics for our directorship importance measure (*Avrsize*). *Avrsize* has a mean of 68 percent and a median of 71 percent. This suggests that, on average, the target firm's market capitalisation makes up 68 percent of the aggregate market capitalisation of each of the target NED's directorships. The maximum value of one represents cases where the target NED has no other directorships whilst the minimum of 1 percent reflects cases where the target firm is much smaller than the NED's other directorships.

Panel C of [Table 2](#) presents the descriptive statistics for the deal controls. The results indicate that the mean bidder toehold in the target is 10 percent, the incidence of multiple bidders (*Mult*) is relatively low at 14 percent, and for 28 percent of takeovers in the sample, the payment method is purely cash (*Payt*).

Panel D of Table 2 reports the descriptive statistics for the target firm controls. The mean and median market capitalisation of target firms at the end of the financial year prior to the takeover announcement are respectively \$530 and \$55 million. Consistent with other Australian M&A studies such as Henry (2004, 2005), the target market-to-book ratio (*Targetmb*), has a mean of 1.31. The mean return on assets (*Targetroa*) of -44 percent suggests that target firms experience poor performance prior to the takeover announcement. Nevertheless, this result is likely to be driven by extreme observations such as the minimum of -9630 percent caused by abnormal items.⁷ Hence, the median of -1 percent is likely to be more representative of target firm performance. *Targetnedownership* is approximately 7 percent, suggesting that NED ownership in Australia is relatively low compared with the United States (Wang et al., 2010). Additionally, Panel D highlights that NEDs make up approximately three quarters of the target board. This result is consistent with prior studies such as Harford et al. (2012) and Bugeja et al. (2017). Lastly, *Targetceoownership* has a mean of 3 percent and a median of zero. This result reveals that target CEO ownership in Australian firms is also relatively low.

Panel E of Table 2 provides descriptive statistics for the bidding firm controls. Bidder free cash flow (*Bidfcf*) is negative with a mean and median of -7 percent and -2 percent of total assets, respectively. Furthermore, bidder leverage (*Bidlev*) has a mean of 1.48 and median of 0.51 whilst bidder market to book (*Bidmb*) has a mean and median of 2.50 and 1.83, respectively. This suggests that bidding firms are more highly geared and have a greater selection of investment opportunities when compared with target firms.

3 | RESEARCH METHOD AND MAIN RESULTS

This section presents the main findings examining the link between a directorship's importance to target NEDs and target firm hostility. We also examine if target directorship importance influences offer price revisions and takeover success. Our tests are conducted using the following Logit or Tobit regression models, depending on the dependent variable.

$$\text{Hostile, cop, outcome} = \beta_0 + \beta_1 \text{Avrsize} + \sum \beta_i \text{Deal characteristics} + \\ + \sum \beta_j \text{Target firm controls} + \sum \beta_k \text{Bidder firm controls} + \varepsilon_i$$

The dependent variables are respectively indicator variables denoting takeovers in which: the target board recommends rejection (*Hostile*); the bidder increases the offer price (*Cop*); the takeover succeeds (*Outcome*).⁸ Our test variable, *Avrsize*, measures directorship importance for each NED on the target board. This variable is calculated as the average of the ratios of the target's market capitalisation divided by the sum of the market capitalisations of all the NED's listed directorships (including the target).⁹ Control variables informed by prior literature are

⁷Due to concern about extreme outliers, all continuous control variables are winsorised at the 5th and 95th percentiles as a sensitivity test discussed in Section 4. Nevertheless, the conclusions from the results remain consistent with the main tests estimated using the unwinsorised data.

⁸The revision ratio is also used as an alternative measure of price revisions in additional testing.

⁹In sensitivity tests we use the following alternative measures of directorship importance: *Size_Proportion* (the proportion of non-executive directors for which the directorship is their largest, measured by market capitalisation) and *High_Proportion* (an indicator variable equal to 1 if this is the most important directorship for more than 50 percent of non-executive directors on the board, zero otherwise). Results on these alternative measures are largely consistent with our main findings and are described in Section 4.2.

included in the models to control for a number of deal characteristics and target and bidder firm financial and governance features. Importantly, we control for target firm size since larger target firms have greater bargaining power and this is likely to influence takeover hostility.¹⁰ Furthermore, the inclusion of target firm size as a control alleviates concerns that our key test measure (*Avrsize*) is proxying for the effect of target firm size in our testing. We do note, however, that the correlation between target firm size and *Avrsize* is 0.09, indicating that these variables are not highly correlated. Prior research on target firm size has generally documented that smaller targets receive higher premiums potentially due to the increased complexity of integrating a larger target firm with the bidder (Alexandridis et al., 2013; Simonyan, 2014). Additionally, the greater resources required to acquire a larger target may result in a lower premium being offered.

All results reported in Section 3 are calculated using robust standard errors clustered by industry measured using two-digit GICS codes, and include industry and year fixed effects.¹¹ An *F*-statistic is not reported in the models given that clustered regressions are calculated using Huber variances which do not assume that observations are independent and homoscedastic (Newson, 2005). Hence, estimation of an *F*-statistic is inappropriate and potentially misleading.¹²

3.1 | Impact of directorship importance on hostility

In this section, we test the association between target firm hostility during an M&A and the importance of a directorship to the target firm's NEDs. Table 3 presents the results of a logit regression testing the association between the importance of a directorship to target NEDs (*Avrsize*) and takeover hostility.

The pseudo- R^2 value indicates that roughly 11 percent of the variation in hostility can be explained by our model. *Avrsize* has a positive coefficient which is significant at the 1 percent level indicating that NEDs are more hostile at directorships they perceive to be important. Similar to Henry (2005), *Premfour* is statistically insignificant, suggesting that bid premiums do not influence the recommendation of the target board to shareholders. The significant positive coefficients for *Targetroa* and *Targetmb* signifies that better performing firms and targets with greater investment opportunities are more hostile, whilst the negative coefficient for *Targetlev* suggests that targets with more debt in their capital structure are more willing to accept takeover offers. The findings indicate that target firm size is unrelated to takeover hostility.

Overall, the results indicate that, after controlling for bid premiums and target firm size, the importance of a directorship to target NEDs (as measured by firm size) is positively associated with target firm hostility. This leaves open several interpretations as to whether target NEDs are acting in shareholders' or their own interests. First, greater hostility may be the result of NEDs rejecting takeover offers at their most important directorships because they perceive the offer price is below the perceived underlying value of the target company and may be part of a negotiation strategy to extract a higher bid. Alternatively, target NEDs may simply be recommending the rejection of the takeover to protect and hopefully retain their most important and

¹⁰In our regression testing we use the natural logarithm of target firm market capitalisation to reduce heteroscedasticity.

¹¹Robust standard errors are used given the presence of heteroscedasticity. The White (1980) and Breusch and Pagan (1979) tests reveal that the variance of the error terms are not homoscedastic.

¹²Further, an *F*-statistic cannot be calculated given that the number of variables in the models exceeds the number of clusters required to calculate the cluster-robust variance-covariance matrix. Hence, the matrix is not full rank (Schaffer, 2005).

TABLE 3 Examining the association between the importance of a directorship to target NEDs and hostility

Variables	Hostile
<i>Avrsize</i>	0.74*** (2.98)
<i>Premfour</i>	-0.18 (-0.98)
<i>Targetmktcap</i>	-0.03 (-0.47)
<i>Toehold</i>	1.37 (1.25)
<i>Mult</i>	0.56 (1.03)
<i>Payt</i>	0.24 (0.45)
<i>Targetmb</i>	0.01*** (5.31)
<i>Targetlev</i>	-0.19** (-2.54)
<i>Targetroa</i>	0.09** (2.08)
<i>Targetnedownership</i>	-1.43 (-1.36)
<i>Targetnedperc</i>	-0.06 (-0.08)
<i>Targetceoownership</i>	0.07 (0.06)
<i>Bidfcf</i>	0.22 (0.87)
<i>Bidlev</i>	-0.07 (-1.61)
<i>Bidmb</i>	0.01 (0.15)
<i>Biddirectorown</i>	0.00 (0.00)
<i>Constant</i>	-0.70 (-0.66)
Observations	418
Year FE	Yes
Industry FE	Yes
Pseudo R^2	0.112

Note: This table presents results of regressing target firm hostility on the firm-level measure of directorship importance (*Avrsize*) and controls. * is significant at 10%. ** is significant at 5% and *** is significant at 1%. *t*-statistics are reported in parentheses and are calculated using robust standard errors clustered by industry (GICS code). *Avrsize* is the average of the ratios of the target's market capitalisation divided by the sum of the market capitalisations of all a NED's directorships (including the target) for each NED on the board. *Hostile* is an indicator variable equal to 1 if the target board rejects the initial offer and 0 otherwise. All other variables are defined in the [Appendix](#).

prestigious directorships. A number of prior studies support this expectation. For instance, Harford (2003) and Bugeja et al. (2009) establish that target NEDs are unlikely to retain their board seat following a successful takeover. We provide further analysis next which attempts to separate these two competing explanations.

3.2 | Impact of directorship importance on offer price revisions

Offer price revisions are the product of a bargaining process between the target and bidding firms. Our next set of analyses tests whether target NEDs are more likely to negotiate an offer price revision when the directorship is more important to them.¹³ This analysis is particularly important given that the results in Table 3 indicate that directors are more hostile at their more important directorships. By examining the effect on price revisions, we can determine if the greater occurrence of hostility, in their more important directorships, is a strategy to extract a price revision from the bidding firm.

Columns (1) and (2) of Table 4 report the logit regression results testing the association between the importance of a directorship to target NEDs and changes in the offer price (*Cop*), where *Cop* is measured as an indicator variable equal to one when there is an increase in the offer price and zero otherwise.

The pseudo- R^2 values indicate that our model captures 25 percent of the variation in *Cop*. In column (1), *Avrsize* is statistically insignificant, suggesting that no statistically reliable association exists between the importance of a directorship to target NEDs and *Cop*. Nevertheless, the controls *Hostile*, *Mult* and *Targetroa* each have positive coefficients significant at the 1 percent level. These findings are consistent with predictions and signify that an initial rejection of a bid, the existence of competing bidders and greater target firm performance significantly increase the chances of an offer price revision (Bugeja et al., 2017). Additionally, the positive coefficient for *Payt* suggests that the likelihood of an offer price revision is significantly higher when the offer is made exclusively with cash. The coefficient on target firm size is positive but insignificantly related to the probability of an increased offer price.

Given that offer price revisions generally materialise following the initial rejection of a takeover offer, we next include an interaction term between *Avrsize* and *Hostile* in the model and report the results of this analysis in column (2) of Table 4. The R^2 of our model increases slightly to 26.9 percent. Whilst the coefficient on our interaction term takes on a positive and significant coefficient (3.56, $p < 0.05$), the coefficient on *Hostile* is no longer significant. This suggests that target NEDs, following a reject recommendation, are more likely to negotiate an offer price increase as the importance of the directorship increases. In contrast, directors for whom the directorship is less important are less likely to negotiate an offer price revision. The conclusions from the controls *Mult*, *Payt* and *Targetroa* are consistent with the results presented in column (1).

Columns (3) and (4) repeat the above analyses using Tobit regressions of *RevisionRatio*, which is the ratio of the final offer price to the initial offer price. Tobit regressions are used since the dependent variable is truncated at one and four.¹⁴ Using this alternative measure, *Avrsize* is insignificant, but we observe a positive and significant coefficient on the interaction between *Avrsize* and *Hostile* (0.69, $p < 0.05$) in column (4). These results are consistent with those reported in columns (1) and (2). The greater increase in price when it is the target NEDs' most important directorship may reflect bidding firms' response to target firm hostility

¹³In Australia, a bidding firm can increase but not decrease the offer price.

¹⁴In additional analyses we also use OLS regressions to examine *RevisionRatio* and get consistent results.

TABLE 4 The association between the importance of the directorship to target NEDs and offer price revisions

Variables	(1) <i>COP</i>	(2) <i>COP</i>	(3) <i>RevisionRatio</i>	(4) <i>RevisionRatio</i>
<i>Avrsize</i>	0.08 (0.18)	-1.32 (-1.36)	0.16 (1.04)	-0.11 (-0.53)
<i>Avrsize</i> × <i>Hostile</i>	-	3.56** (2.53)	-	0.69** (2.44)
<i>Premfour</i>	0.37 (0.82)	0.47 (1.10)	0.18 (1.61)	0.20* (1.71)
<i>Hostile</i>	1.71*** (4.84)	-0.67 (-0.71)	0.57*** (3.62)	0.10 (0.34)
<i>Targetmktcap</i>	0.10 (1.25)	0.12 (1.52)	0.02 (0.77)	0.03 (1.01)
<i>Toehold</i>	1.50 (1.49)	1.10 (0.93)	0.70** (2.00)	0.62* (1.71)
<i>Mult</i>	1.39*** (4.97)	1.40*** (4.69)	0.29** (2.09)	0.28* (1.96)
<i>Payt</i>	1.11*** (5.20)	1.17*** (5.16)	0.17** (2.57)	0.18*** (2.76)
<i>Targetmb</i>	-0.01 (-1.18)	-0.01 (-1.33)	0.00* (1.84)	0.00** (1.98)
<i>Targetlev</i>	-0.10** (-2.08)	-0.10** (-2.07)	-0.03 (-1.58)	-0.02 (-1.40)
<i>Targetroa</i>	0.04*** (3.33)	0.04*** (3.13)	0.01** (2.08)	0.01** (2.27)
<i>Targetnedownership</i>	0.42 (0.42)	0.45 (0.41)	0.07 (0.29)	0.07 (0.29)
<i>Targetnedperc</i>	-0.89 (-1.39)	-0.78 (-1.16)	-0.37 (-1.00)	-0.36 (-0.97)
<i>Targetceoownership</i>	0.60 (0.36)	0.76 (0.41)	0.44 (0.48)	0.46 (0.52)
<i>Bidfcf</i>	-0.12 (-0.57)	-0.15 (-0.67)	0.03 (1.08)	0.03 (0.93)
<i>Bidlev</i>	-0.00 (-0.04)	0.01 (0.23)	0.01 (1.18)	0.01 (1.57)
<i>Bidmb</i>	-0.03 (-0.97)	-0.03 (-0.96)	0.01 (0.57)	0.01 (0.48)
<i>Biddirectorown</i>	2.33*** (2.70)	2.72*** (2.83)	0.47** (2.46)	0.54*** (2.77)
<i>Constant</i>	-5.72*** (-3.29)	-5.55*** (-2.96)	-0.74 (-1.29)	-0.67 (-1.15)
Observations	418	418	418	418

TABLE 4 (Continued)

Variables	(1) <i>COP</i>	(2) <i>COP</i>	(3) <i>RevisionRatio</i>	(4) <i>RevisionRatio</i>
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R^2	0.250	0.269	-0.283	-0.296

Note: This table examines the association between directorship importance (*Avrsize*) and offer price revisions. Logit regressions are used in columns (1) and (2) where the dependent variable is change in offer price (*COP*), and Tobit regressions in columns (3) and (4) where the dependent variable is the revision ratio. * is significant at 10%. ** is significant at 5% and *** is significant at 1%. *t*-statistics are reported in parentheses and are calculated using robust standard errors clustered by industry (GICS code). *Avrsize* is the average of the ratios of the target's market capitalisation divided by the sum of the market capitalisations of all a NED's directorships (including the target) for each NED on the board. *COP* is an indicator variable equal to 1 if there was a bid revision and 0 otherwise. *RevisionRatio* is the ratio of final offer price to initial offer price. All variables are defined in the [Appendix](#).

(observed in [Table 3](#)). That is, a greater change in offer price may be used to entice target shareholders to pressure the board to accept the deal.

In summary, the results indicate that the importance of a directorship to target NEDs leads to a greater probability of offer price revisions and a greater increase in offer price, following the rejection of the initial takeover bid. Thus, target NEDs appear to exert more effort in extracting offer price revisions at their most important directorships.

3.3 | Impact of directorship importance on M&A outcome

As a final test, we examine the relation between *Avrsize* and takeover outcome using a Logit regression where *Outcome* is an indicator variable equal to one when the M&A is successful and zero otherwise. This analysis provides evidence on whether target directorship importance leads to an improved final outcome for shareholders in the form of a successful acquisition. [Table 5](#) presents the results.

The model's R^2 of 37.7 percent suggests that nearly a third of the variation in *Outcome* can be explained by the model. *Avrsize* has a negative and marginally significant coefficient (-1.13 , $p < 0.10$) indicating that the importance of a directorship to target NEDs reduces the probability of a takeover succeeding. This could be due to target firm hostility, which we observe in [Table 3](#). In column (2) we include an interaction term between *Avrsize* and *Hostile*, however the coefficient is insignificant. The indicator variable for *Hostile* (*Cop*) has a negative (positive) coefficient significant at the 1 percent level. The insignificant finding on *Avrsize* and the further insignificance of this variable when interacted with takeover hostility indicates that there is no association between directorship importance and takeover success.

Consistent with expectations, *Mult* has a negative and significant coefficient indicating that the likelihood of a takeover succeeding is inversely related to the incidence of competing bids. Furthermore, *toehold* has a positive and significant coefficient, consistent with expectations, which demonstrates that bidders with a larger stake in the target firm have a greater chance of succeeding in a takeover (Henry, 2005; Stulz et al., 1990).¹⁵ Interestingly the findings indicate that the likelihood of takeover success is unrelated to takeover premiums and is positively related to target firm size and negatively related to target firm

¹⁵This is due to the bidder having fewer target shareholders to negotiate with as well as more voting power in the target firm.

TABLE 5 Takeover success and the importance of the directorship to target NEDs

Variables	(1) <i>Outcome</i>	(2) <i>Outcome</i>
<i>Avrsize</i>	-1.13* (-1.73)	-1.13 (-1.64)
<i>Avrsize</i> × <i>Hostile</i>	-	0.00 (0.00)
<i>Premfour</i>	-0.00 (-0.02)	-0.00 (-0.02)
<i>Hostile</i>	-3.53*** (-9.02)	-3.53*** (-7.12)
<i>COP</i>	1.31*** (3.84)	1.31*** (3.74)
<i>Targetmktcap</i>	0.25*** (3.92)	0.25*** (3.90)
<i>Toehold</i>	8.87*** (5.64)	8.87*** (5.65)
<i>Mult</i>	-2.05*** (-7.89)	-2.05*** (-7.85)
<i>Payt</i>	-0.23 (-0.83)	-0.23 (-0.84)
<i>Targetmb</i>	-0.01 (-0.60)	-0.01 (-0.59)
<i>Targetlev</i>	0.03 (0.82)	0.03 (0.81)
<i>Targetroa</i>	-0.06* (-1.77)	-0.06* (-1.76)
<i>Targetnedownership</i>	0.80 (0.58)	0.80 (0.58)
<i>Targetnedperc</i>	-0.24 (-0.22)	-0.24 (-0.22)
<i>Targetceownership</i>	1.42 (1.06)	1.42 (1.06)
<i>Bidfcf</i>	0.40 (1.61)	0.40 (1.61)
<i>Bidlev</i>	-0.03 (-1.01)	-0.03 (-1.01)
<i>Bidmb</i>	-0.04 (-1.05)	-0.04 (-1.05)
<i>Biddirectorown</i>	0.72 (1.30)	0.72 (1.32)

TABLE 5 (Continued)

Variables	(1) <i>Outcome</i>	(2) <i>Outcome</i>
Constant	-2.95** (-2.02)	-2.95** (-1.99)
Observations	421	421
Year FE	Yes	Yes
Industry FE	Yes	Yes
Pseudo R^2	0.377	0.377

Note: This table presents results of regressing takeover success (*Outcome*) on directorship importance (*Avrsize*) and controls. * is significant at 10%. ** is significant at 5% and *** is significant at 1%. *t*-statistics are reported in parentheses and are calculated using robust standard errors clustered by industry (GICS code). *Avrsize* is the average of the ratios of the target's market capitalisation divided by the sum of the market capitalisations of all a NED's directorships (including the target) for each NED on the board. *Outcome* is an indicator variable equal to 1 if the takeover is successful and zero otherwise. All variables are defined in the [Appendix](#).

performance (*Targetroa*). Overall, the results on our control variables are consistent with the findings in Henry (2004).

4 | ADDITIONAL ANALYSIS AND SENSITIVITY TESTING

In addition to the main results presented in Section 3, we conduct some additional analyses to further examine the role of target directorship importance. We also undertake a number of sensitivity and robustness tests to determine whether our main results are driven by particular variable and sample specifications.

4.1 | Impact of directorship importance on bid premiums and target abnormal returns

Our first additional test is to investigate the association between directorship importance to target NEDs and the initial premium offered to target shareholders. As outlined in prior literature (e.g., Henry, 2004; Walkling & Long, 1984), self-serving directors have an incentive to spurn takeover offers which put at jeopardy their position and benefits with the target firm. A lack of willingness to negotiate with potential suitors leaves the bidding firm at a disadvantage as they are unable to conduct due diligence on the target firm prior to announcing the bid. One method for the bidding firm to protect themselves against this higher level of information asymmetry is to reduce the initial bid premium offered to target shareholders. Since the results above indicate hostility increases for target firms which have NEDs for whom the directorship is more important, we test whether our directorship importance measure is associated with the initial bid premium.

Column (1) of [Table 6](#) presents the results of an ordinary least squares (OLS) regression examining the relation between *Avrsize* and premiums calculated using the share price four weeks prior to the takeover announcement (*Premfour*).¹⁶

¹⁶*Premfour* is measured as the ratio of the offer price relative to the target firm's share price four weeks prior to the takeover announcement date minus one. In stock swap acquisitions, we follow the approach of Fu et al. (2013) and calculate premiums using the exchange ratio of the number of acquiring firm shares for each target firm share measured four weeks before the takeover announcement.

TABLE 6 Examining the association between the importance of the directorship to target NEDs and bid premiums and abnormal returns

Variables	(1) <i>Premfour</i>	(2) <i>CAR71</i>
<i>Avrsize</i>	-0.02 (-0.28)	-0.36* (-1.92)
<i>Premfour</i>	-	0.47* (1.95)
<i>Hostile</i>	-0.02 (-0.73)	0.43 (1.36)
<i>Targetmktcap</i>	-0.05** (-2.95)	0.03 (1.17)
<i>Toehold</i>	0.00 (0.01)	0.69** (2.82)
<i>Mult</i>	-0.08 (-1.54)	-0.01 (-0.05)
<i>Payt</i>	-0.00 (-0.03)	-0.03 (-0.17)
<i>Targetmb</i>	0.00 (0.77)	0.00 (0.59)
<i>Targetlev</i>	0.00 (0.16)	0.01 (0.96)
<i>Targetroa</i>	-0.01*** (-5.04)	0.02** (2.61)
<i>Targetnedownership</i>	-0.01 (-0.10)	0.09 (0.73)
<i>Targetnedperc</i>	0.01 (0.04)	-0.74 (-1.27)
<i>Targetceoownership</i>	0.08 (0.22)	-0.64 (-1.15)
<i>Bidfcf</i>	0.04* (2.19)	-0.08** (-2.53)
<i>Bidlev</i>	0.01 (1.35)	0.01* (1.85)
<i>Bidmb</i>	0.00 (0.47)	-0.01 (-0.40)
<i>Biddirectorown</i>	-0.37** (-2.52)	0.34 (1.33)
Constant	1.16** (2.75)	0.08 (0.15)
Observations	421	420
R^2	0.14	0.08
Year FE	Yes	Yes
Industry FE	Yes	Yes

Note: This table presents results of regressing directorship importance (*Avrsize*) on initial bid premium (*Premfour*) and cumulative abnormal returns (*CAR71*) and controls. * is significant at 10%. ** is significant at 5% and *** is significant at 1%. *t*-statistics are reported in parentheses and are calculated using robust standard errors clustered by industry (GICS code). *Avrsize* is the average of the ratios of the target's market capitalisation divided by the sum of the market capitalisations of all a NED's directorships (including the target) for each NED on the board. *Premfour* is the bid premium measured four weeks prior to the takeover announcement, minus one. *CAR71* is the cumulative abnormal return adjusted for stock splits and dividends, 60 days before and 10 days after the takeover announcement. All variables are defined in the [Appendix](#).

The R^2 for this regression model is 14 percent. *Avrsize* has a negative and insignificant coefficient indicating that the importance of the directorship to target NEDs is not associated with initial bid premiums. Target return on assets and size are negatively associated with takeover premiums. This finding is consistent with greater possible performance improvements for poorly performing targets (Sudarsanam et al., 1996). The results also indicate that takeover premiums are higher for small firms perhaps due to higher information asymmetry (Anderson et al., 1992) or the lower costs and complexity associated with integrating small target firms (Alexandridis et al., 2013; Simonyan, 2014).¹⁷ Bidder free cash flow is positively related to premiums which may represent overpayment.

We extend our analysis further by examining whether there is an association between target directorship importance and the share market reaction to the announcement of the takeover. If the share market expects a greater probability of hostility on the part of NEDs who view the board seat as more important, it is possible that the share market has a lower reaction to the takeover announcement. Thus, we would observe a negative relation between *Avrsize* and the market's reaction to the takeover announcement. Column (2) of Table 6 presents the results of an OLS regression examining the relation between *Avrsize* and the 71-day cumulative abnormal return (*CAR71*) around the takeover announcement. A 71-day window is selected given the potential for information leakage prior to the initial takeover announcement.¹⁸

The R^2 value for this model suggests that the regression only captures approximately 8 percent of the variation in *CAR71*. The test variable *Avrsize* has a negative and significant coefficient (-0.36 , $p < 0.10$) illustrating that the importance of a directorship to target NEDs is associated with a lower market reaction to the takeover announcement. As would be expected, there is a positive association between the market reaction to the takeover announcement and the size of the takeover premium. There is a significant higher market reaction when the target is performing better (*Targetroa*) and the bidder already has a toe-hold in the firm. Surprisingly, there is a negative association between the target abnormal return and bidding firm free cash flow.¹⁹ Overall, this result is consistent with NEDs acting in their own interest when their most important directorship is the target in an acquisition, particularly since there is no significant relation between premiums and hostility observed in Table 3.

4.2 | Alternative measures of directorship importance

Our main test variable *Avrsize* examines the importance of a directorship to target NEDs based on the relative size of the target firm to the director's other listed directorships. Given that this measure is an average, it is potentially noisy. Therefore, we follow other studies examining directorship importance (e.g., Huang et al., 2018; Khoo et al., 2020) and construct two alternative measures to determine the robustness of our findings. The first, *Size_Proportion*, is the proportion of NEDs for which the directorship is their largest, measured by market capitalisation. This measure captures the proportion of NEDs on the board for which the

¹⁷The results are also estimated using alternatively the bid premium measured using the share price 15 days prior to the initial takeover announcement and results remain consistent with those shown in Table 6.

¹⁸We examine shorter windows such as 3- and 5-day CARs but find no significant association consistent with information leakage prior to the takeover announcement (Aspris et al., 2014).

¹⁹Our results are consistent if we measure cumulative abnormal returns using the event window $(-30, +10)$ centred on the takeover announcement date. Using buy and hold abnormal returns rather than cumulative abnormal returns also produces consistent results.

target firm is their most important directorship. For example, if there are five NEDs and this directorship is the most important for two of them, *Size_Proportion* would equal 0.40. The second measure, *High_Proportion* is an indicator variable equal to 1 if this is the most important directorship for more than 50 percent of non-executive directors on the board, zero otherwise. We then rerun each regression replacing *Avrsize* with each of the alternative measures.

In support of our main results, *Size_Proportion* and *High_Proportion* are positively and significantly associated with takeover hostility and revisions in the offer price, and when interacted with *Hostile* remain positively and significantly associated with *Cop*. Consistent with the main findings that directorship importance does not increase the likelihood of a successful takeover outcome, the interaction between *Size_Proportion* and *High_Proportion* and *Hostile* is respectively insignificantly or negatively associated with a successful takeover. Last, *Size_Proportion* is negatively and significantly related to *CAR71*, consistent with our main result, while the indicator variable *High_Proportion* is insignificant. It appears that when the target directorship is the most important for the majority of NEDs (i.e., *High_Proportion* = 1), there is also a higher initial premium offered. Overall, the conclusions from the main results remain largely consistent using these alternative measures of directorship importance and the evidence remains inconsistent with target directorship importance leading to an improved outcome for target shareholders.

4.3 | Compensation-based measures of directorship importance

The literature has identified both firm size and compensation to be factors that motivate NEDs. Whilst Masulis and Mobbs (2014) claim that firm size and reputation are the main drivers of motivation for NEDs due to firm size being associated with greater prestige (Masulis & Mobbs, 2016), visibility (Fama & Jensen, 1983; Knyazeva et al., 2013; Shivdasani, 1993) and compensation (Ryan & Wiggins, 2004; Yermack, 2004), other studies have found that compensation significantly influences NED behaviour. For example, Adams and Ferreira (2008) find that compensation motivates NEDs to attend more board meetings, whilst Bugeja et al. (2017) conduct a study which provides evidence on how bidding firm NED compensation is negatively associated with bid premiums. Furthermore, Bugeja et al. (2016b) have identified a 63 percent increase in median NED compensation, within Australia, between 2004 and 2012. This suggests that Australian firms believe that adequate compensation is necessary to attract and retain experienced, talented and reputable NEDs.²⁰

Consequently, we develop two measures of a directorship's importance to target NEDs based on the relative compensation they receive. These are *Avrcomp* and *Compproportion*. *Avrcomp* is measured as the average of the ratios of pay, for each director, derived from the target firm directorship relative to all their listed directorships. *Compproportion* differs slightly by calculating the proportion of compensation received by target NEDs as the sum of total compensation paid by the target firm to target NEDs divided by the sum of total compensation received by target NEDs across all their listed directorships, including the target firm. Compensation paid to each target firm director at their target directorship, as well as their other listed directorships, is hand collected from company financial reports for the financial year end immediately preceding the takeover announcement.

Our results reveal that when compensation-based measures of directorship importance are employed, there is no statistically significant association with takeover hostility. These results suggest that NEDs are not strongly motivated by compensation perhaps due to their aggregate personal wealth.²¹ The insignificant findings on compensation are also consistent with the re-

²⁰For example, the National Australia Bank Ltd.'s 2015 Annual Report outlines how increases in remuneration to NEDs is necessary to 'remain competitive with comparable companies and its ability to attract and retain the best talent' (p. 31).

²¹Testing this conjecture is not possible due to the unavailability of director's personal financial information.

sults of Masulis and Mobbs (2014) who document largely insignificant findings when directorship importance is constructed using compensation measures.

4.4 | Directorship importance and individual director recommendations

Section 638 of the Corporations Act requires that the target's statement provide a recommendation from each director of the target as to whether the bid should be accepted or rejected with explanatory reasons. Ideally, this requirement would allow us to examine the association between an individual director's recommendation and the importance of the target directorship for that specific director. In practice, however, virtually all target firm recommendations on bid acceptance are unanimous so there is no variation in opinion amongst directors. More specifically, we manually read all the target statements in our sample and in only five bids (1 percent) was the board split in their recommendation to shareholders.²² As a result we are unable to relate a director's unique recommendation to an individual measure of directorship importance.

4.5 | Directorship importance for chairperson and takeover hostility

Masulis and Mobbs (2014) find that directors are more likely to be appointed to the audit or compensation committee at their most prestigious directorship measured by firm size. As outlined in the previous sub-section, we cannot examine the impact of directorship importance on takeover hostility at the director level. We do, however, analyse if the importance of the target directorship to the chairperson of the board is associated with takeover hostility. Arguably, since the chairperson is the most influential NED, they may have the greatest influence on the board's recommendation to shareholders.

To conduct this additional test, we re-calculate our *Avrsize* measure using only the importance of the target directorship to the chairperson of the target board and repeat our analysis. The results (untabulated) show a positive but insignificant association between takeover hostility and the importance of the target board seat to the chairperson. These findings suggest that the importance of the target directorship to each individual board member, rather than the chairperson alone, influences the recommendation to target shareholders.

4.6 | Size controls used in the regression models

The findings presented control for target firm size to reduce the possibility that the results on our key test measure are proxying for the effect of target firm size. We also estimate our analysis (results not tabulated) with the substitution of the relative size of the target to the bidding firm (*Relsize*) in place of the target firm size variable (*Targetmktcap*). The conclusions from our results remain unchanged. We also repeat the main analysis presented with the inclusion of the natural logarithm of bidding firm market capitalisation as an additional control variable and the conclusion from our results remain consistent.

²²In each of these five bids, only one director provided a dissenting recommendation.

4.7 | Controlling for schemes of arrangement

Bugeja et al. (2016a), using a sample of ASX listed firms, find that schemes of arrangement (SOA) lead to a reduction in takeover premiums of between 16 and 40 percent. Accordingly, we re-perform our analysis including an indicator variable for SOA. Our results remain consistent with the inclusion of this additional control.

4.8 | Effect of outliers, industry and GFC

The breakdown of our sample presented in Table 1 illustrates that 37 percent of the sample comprises targets from the materials sector (i.e., GICS 15). In order to alleviate concerns that the concentration of targets within this industry drives our results, the main findings are presented with the inclusion of industry fixed effects as well as robust standard errors clustered by industry. We also conduct additional analysis to assess if our results on directorship importance are heightened or weakened in the materials sector. To perform this test, we include an indicator variable for this sector (*Gics15*) and also interact this variable with our main measure ($Gics15 \times Avrsize$). The results remain consistent and the interaction variable is insignificant in all additional tests.

The descriptive statistics presented in Table 2 indicate the presence of outliers. We address concerns relating to the treatment of outliers by winsorising our continuous variables, other than *Avrsize*, at the 5th and 95th percentiles and re-estimating our analysis. Overall, the winsorised results are qualitatively similar to the main results despite minor reductions in statistical significance.

Third, Duett et al. (2010) outline how the GFC led to a substantial decline in M&A activity worldwide. As a sensitivity test, we remove the global financial crisis years 2008 and 2009. Panel B of Table 1 indicates that these two years make up roughly 19 percent of the sample or 81 takeovers. Therefore, removal of these years yields a sample of 341 takeovers. Following the removal of GFC years 2008 and 2009, *Avrsize* continues to have a positive and significant coefficient when regressed against *Hostile*. The conclusions on the influence of *Avrsize* on revisions in offer price also remain unchanged from those presented in Table 4.

4.9 | Controlling for director networks

Last, in all our tests (untabulated), we include a control for the fraction of directors that sit on at least one other board of a publicly listed firm. These directors have access to knowledge from their networks which directors with only one directorship do not. They may also be considered ‘busy’. Including this control does not alter our results and the control variable is insignificant in all but two tests.

5 | CONCLUSIONS

Using a sample of 422 M&As between Australian listed companies between 2004 and 2016, this paper studies whether the relative importance of a directorship to target NEDs influences their recommendation and subsequent target shareholder outcomes in an M&A. Our results suggest that the importance of a directorship to target NEDs is positively associated with target firm hostility. Despite no significant relation being found between the importance of a directorship to target NEDs and premium or offer price revisions, we find a positive relation between the interaction of directorship importance and hostility when

regressed against offer price revisions. However, subsequent analysis documents a negative relation between directorship importance and takeover success as well as with target cumulative abnormal returns.

Taken together, these results reveal that the relation between directorship importance and target firm M&A outcomes is complex. At first glance, target NEDs appear to be acting in the best interests of target shareholders by recommending the rejection of takeovers at their more important directorships in order to facilitate offer price revisions. However, our results indicate that target directorship importance does not ultimately increase the likelihood of a successful takeover. It could very well be that bidders are initiating offer price revisions in response to takeover hostility, rather than target NEDs negotiating for them. Moreover, the negative and significant association between directorship importance and takeover success leads to concerns that the initial hostility of NEDs may be driven by self-serving motivations to retain their status at the target firm and maintain their reputational capital.

This paper makes several contributions to the literature. First, this paper makes a theoretical contribution to the emerging body of literature on directorship importance by applying the measure in an M&A context. The findings of this paper demonstrate that, during takeovers, target NEDs appear to act against the interests of target shareholders at their most important directorship measured by size. Hence, our paper is inconsistent with the conclusions reached by Masulis and Mobbs (2014, 2016) within an Australian M&A context.²³ Equally, this paper provides support to a number of M&A studies, which find that NEDs act in self-interest during M&As (Bugeja et al., 2019; Walkling & Long, 1984).

Second, this paper contributes to the debate as to whether NEDs are motivated by compensation or firm size. Given that we only find consistently significant relations for our size-based measures of directorship importance, our findings support Masulis and Mobbs (2014) and the notion that NEDs are motivated by the size/prestige of a firm rather than compensation. A possible area for future research is to investigate the specific contexts when compensation-based measures of importance are more likely to influence director actions.

Our findings are subject to several limitations. First, our sample is limited to M&As listed on the Connect 4 Mergers and Acquisitions database where both the target and bidding firm are ASX listed companies. Second, given the inaccessibility of data, unlisted directorships are not included in our calculations of directorship importance. Third, the requirement to use firm-level dependent variables necessitates the use of an aggregate measure of directorship importance.


Overall, these findings are inconsistent with the body of theory on the role of NEDs as well as other empirical studies, which find directorship importance leads to actions that are in shareholders' interest in non-M&A contexts. The drivers of individual NED behaviour are beyond the scope of this paper and remain an area for further empirical investigation.

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²³Masulis and Mobbs (2014) find that a positive relation exists between the importance of a directorship to NEDs and several indicators of NED behaviour outside of an M&A setting.

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APPENDIX

Variable names and definitions

Variable name	Definition
<i>Avrcomp</i>	The average of the ratios for each NED of total pay derived from the target firm directorship divided by total pay received from all their listed directorships (including the target)
<i>Avrsize</i>	The average of the ratios of the target's market capitalisation divided by the sum of the market capitalisations of all of a NED's directorships (including the target) for each NED on the board
<i>Biddirectorown</i>	Bidder firm director ownership, measured as the percentage of shares in the bidding firm held by the bidding company's directors at the end of the financial year immediately before the announcement date
<i>Bidfcf</i>	Bidding firm free cash flow, measured as the difference between the bidder's cash flow from operations and cash flow from investments scaled by total assets at the end of the financial year immediately before the announcement date
<i>Bidlev</i>	Bidding firm leverage, measured as the ratio of bidding firm total debt to total equity at the end of the financial year immediately before the announcement date
<i>Bidmb</i>	Bidding firm market-to-book ratio, measured as the bidder's market capitalisation divided by their book value of equity at the end of the financial year immediately preceding the announcement date
<i>CAR71</i>	71-day cumulative abnormal returns, measured using a window centred on the takeover announcement date of -60, +10. The ASX All Ordinaries is used as the market return and firms are assumed to have a beta of 1
<i>Compportion</i>	The ratio of total compensation paid by the target firm to NEDs divided by total compensation received by NEDs from all their directorships including the target firm
<i>Cop</i>	Change in offer price (i.e., bid revisions), measured using an indicator variable equal to one when there is an increase in offer price and zero otherwise.
<i>High_Proportion</i>	An indicator variable equal to 1 if this is the most important directorship for more than 50 percent of non-executive directors on the board, zero otherwise
<i>Hostile</i>	Takeover hostility, measured using an indicator variable which takes a value of one when the target board rejects the initial offer and zero otherwise
<i>Mult</i>	An indicator variable which equals one when there are multiple bidders for the target firm within a six-month period of the takeover announcement and zero otherwise.
<i>Outcome</i>	Takeover outcome, measured using an indicator variable with a value of one when the takeover is successful and zero otherwise
<i>Payt</i>	An indicator variable which takes on a value of one when the method of payment is exclusively cash and zero otherwise
<i>Premfour</i>	Bid premium, measured as the ratio of the offer price relative to the target firm's share price four weeks prior to the takeover announcement date minus one
<i>RevisionRatio</i>	Is the ratio of final offer price to initial offer price
<i>Size_Proportion</i>	The proportion of NEDs for which a directorship is their largest, measured by market capitalisation

Variable name	Definition
<i>SOA</i>	An indicator variable equal to one if the deal type is a scheme of arrangement and zero otherwise
<i>Targetceownership</i>	The percentage of shares held by the target CEO, in the target company, at the end of the financial year immediately before the announcement date
<i>Targetlev</i>	Target leverage, measured as the ratio of target firm total debt to total equity at the end of the financial year immediately before the announcement date.
<i>Targetmktcap</i>	The target firm's market capitalisation in millions of dollars. Regression models use the natural logarithm of target market capitalisation
<i>Targetmb</i>	Target firm market-to-book ratio, measured as a ratio of the target's market capitalisation to the book value of equity at the end of the financial year immediately before the announcement date
<i>Targetnedownership</i>	Measures the percentage of shares owned by the target firm's NEDs, in the target firm, at the end of the financial year immediately before the takeover announcement date
<i>Targetnedperc</i>	Percentage of the target board who are NEDs at the end of the financial year immediately preceding the takeover announcement
<i>Targetroa</i>	Target firm return on assets, measured as the ratio of reported net profit after tax to total assets at the end of the financial year immediately before the announcement date
<i>Toehold</i>	The percentage of shares owned by the bidder in the target at the date of the takeover announcement
