The choice of financial advisory and independent expert services in takeovers: evidence in a setting where the services are independent

Abstract

This study investigates the choice to obtain both financial advisory services and independent expert opinions during takeovers in Australia where these services are provided by independent firms. We find the use of both services increases when the target firm is offered a lower initial premium. We also document that engaging both services benefits target firm shareholders through a higher probability of an upward price revision and a greater likelihood of deal success. The results are robust to controlling for selection bias and suggest the use of both independent experts and financial advisors only adds value when provided by different firms.

Keywords: Fairness opinions; Independent experts; Financial advisors; Advisory services; Mergers and acquisitions; Price revisions, Deal success.

JEL Classifications: G24, G30, G34

1. Introduction

During merger and acquisition (M&A) negotiations, target firms often hire intermediaries such as financial advisors and/or independent experts. Financial advisors are typically engaged by target firms to identify synergistic acquirers, to negotiate and obtain a higher offer price, and to facilitate deal completion (Bowers and Miller, 1990; Kale *et al*., 2003; Da Silva Rosa *et al*., 2004). In contrast, independent experts are engaged by target firms to provide an impartial and credible opinion on whether the takeover offer price is fair and reasonable.[1] Expert reports are often used to pressure bidding firms to raise the offer price (Bugeja, 2007;) and to provide legal protection for target directors who recommend takeover acceptance (Kisgen *et al*., 2009).[2] As such, prior literature documents that financial advisors and independent experts provide complementary and different services, which benefit target firms.

Given the documented benefits of using either service, it is surprising that only 50% of target firms that use a financial advisor also engage an independent expert.[3] This raises the question: why do some target firms voluntarily engage both a financial advisor and an independent expert, and what are the benefits from doing so relative to using only a financial advisor? Accordingly, the objectives of this paper are: (i) to determine the factors associated with the target firms' choice to engage both a financial advisor and an independent expert; and

[1] Outside Australia, independent expert reports are typically referred to as fairness opinions. We use the term independent expert report rather than fairness opinion consistently in our discussion.
[2] For example, the target board can be sued by shareholders for negligence regarding their recommendation and/or failing to thoroughly evaluate the offer price (Kisgen *et al*. 2009).
[3] This descriptive statistic is obtained using a sample of Australian takeovers from 1997 to 2016. See Tables 1 and 3.

(ii) to examine if the use of both services leads to improved outcomes for target shareholders in terms of offer price and deal completion relative to using only a financial advisor.[4]

This study is motivated by the lack of prior evidence on the possible *joint* role of target firm financial advisory services and independent experts in influencing takeover outcomes. A key limitation of prior research is that it has examined the effects of either financial advisory services or expert opinions in isolation. For example, Kale *et al*. (2003) document that U.S. target firms benefit from hiring a reputable financial advisor; however, despite reporting that 52% of their target sample also obtain an expert opinion, they do not control for the provision of an expert opinion on takeover outcomes. Similarly, Nguyen (2018) report evidence that the type of expert opinion in Australian takeovers influence offer price revisions and takeover completion, but they do not consider the presence of a target firm financial advisor or the joint choice of financial advisor and independent expert on takeover outcomes.

In addition, this study is motivated by the conflict of interest inherent in the provision of expert opinions in prior U.S. research, which have limited the ability of these studies to document benefits to target shareholders from the use of independent experts. In the U.S. setting, conflicts of interest arise as typically the same firm which provides M&A financial advisory services also provides the independent expert opinion. This raises concerns about the "independence" of the expert opinion, as there are strong incentives for the expert to issue a favourable opinion to facilitate deal completion, as its M&A financial advisory fees are contingent on the successful completion of the M&A.

[4] The main analysis in this study focuses on the use of a voluntary independent expert by target firms that have engaged a financial advisor. This research design choice is made to minimise the self-selection issues that arise when conducting our analysis. In additional testing, we also compare the effect of the use of both a financial advisor and independent expert, to using either of these services alone, or hiring neither an independent expert, nor financial advisor. The conclusion from our findings remain unchanged.

This lack of independence in the U.S. led the National Association of Securities Dealers to propose regulation in 2005, to prohibit firms that provide financial advisory services from providing expert opinions. However, in 2007 the Securities Exchange Commission regulated only the disclosure of conflicts of interest concerning the existence of a contingent fee structure, rather than banning financial advisory firms from providing expert opinions. This conflict of interest is cited by Kisgen *et al*., (2009) as a likely reason for the lack of observed benefits on takeover premiums from engaging an independent expert in the U.S.. Moreover, Liu (2020) reports that only 9% of U.S. target firms obtain a second expert opinion free from conflicts of interest, and that target shareholders experience significant positive wealth effects from obtaining an 'independent' fairness opinion. Our study adds to the extant literature on whether there are benefits of engaging an independent expert above and beyond financial advisory services in a setting where this conflict of interest is absent.

This study is undertaken in the Australian setting, which has a number of features that allow us to address our research questions. First, in Australia, the firm that provides the expert report (typically an accounting firm) is required by legislation and Australian Securities and Investments Commission (ASIC) guidelines to be independent from the firm that provides financial advisory services.[5] Thus, the conflict of interest observed in prior U.S. studies is absent.[6,7] Additionally, due to the independence of experts in the Australian setting, there is observable cross-sectional variation in the opinion provided by experts. We observe 66% of independent expert reports contain a fair and reasonable opinion, whilst 27% of opinions indicate that the offer price is not fair and reasonable.[8] This is significantly different from the U.S. setting where Cain and Denis (2013) report all expert reports in their sample indicate that

[5] These requirements are described further in Section 2.
[6] The fees charged for expert opinions in Australia are not contingent on deal outcome.
[7] Kisgen *et al*., (2009) report that only 6% of U.S. target firm expert reports are provided by firms that are unaffiliated with the advisory group for the deal.
[8] The other 7% of expert opinions indicate that the offer price is "Not fair but reasonable."

the offer price is fair. Similarly, U.S. based studies have been unable to control for differences in the expert opinion (Kisgen *et al*., 2009; Liu, 2020). Other key differences in Australia provide a heightened ability to examine the influence of the use of both financial advisory services and expert reports on target firm takeover outcomes. For example, it is rare for a bidding firm in Australia to provide an expert report.[9] Additionally, target firms in Australia only commission one expert report; therefore, unlike Kisgen *et al*., (2009) and Liu (2020), we do not need to control for the effects and selection issues arising from multiple expert opinions.

Using a dataset of acquisitions of Australian publicly listed target firms between 1997 and 2016, this study first examines factors influencing the decision of target firms to obtain both financial advisory services and independent expert reports. We then examine the impact of engaging both a financial advisor and independent expert on deal success and the likelihood of an upward price revision relative to using only a financial advisor. We find that target firms are more likely to engage both a financial advisor and an independent expert when they are offered a lower initial takeover premium. This result suggests that financial advisors encourage the target firm to obtain an independent expert opinion when they are unable to negotiate a sufficient takeover premium. In addition, we find that, compared to firms that obtain only financial advisory services, target firms that obtain both financial advisory services and independent expert reports are more likely to receive an upward offer price revision and experience a greater likelihood of deal success. In contrast to the results in Nguyen (2018), we find that the opinion provided by the independent expert is associated with neither the likelihood of a price revision nor deal completion. Our results are robust to using a bivariate probit method to control for the selection bias arising from the choice to use both services. In additional analysis, we find that top tier advisors are more likely to use independent experts,

[9] Cain and Denis (2013) find that acquiring firm fairness opinions exhibit positive valuation errors that are significantly greater than target firm valuation errors, providing further evidence that the conflict of interest faced by investment banks influences the fairness opinion.

and that the positive effect on deal completion of using both an expert and financial advisor irrespective of the type of advisor (e.g., boutique or top tier). We also find that the use of both an independent expert and financial advisor is not associated with the type of opinion provided by the independent expert.

This study makes a number of contributions. First, this study examines the factors influencing the target firms' choice to engage both financial advisors and independent experts, relative to a financial advisor only. This investigation addresses a limitation of prior research using U.S. data that is unable to examine this question due to the joint provision of both services by the same provider. Overall, our findings support the view that financial advisory services and independent expert reports provide alternative expertise to target firms, and both services are used when the target firm has been unable to negotiate an adequate deal premium.

Second this study finds that the use of independent experts in conjunction with financial advisors improves target firm outcomes relative to the use of only a financial advisor. These results are consistent with the evidence based on multiple target firm fairness opinions in Liu (2020), and suggest that U.S. findings (Kisgen *et al*., 2009) which show target firm outcomes are unaffected by whether an expert opinion is provided, are driven by the expert lacking independence. Therefore, our results reinforce the value of receiving an expert opinion from an independent firm, as investment banks may provide biased opinions when they face a conflict of interest (Stouraitis, 2003; Cliff, 2007; Kolasinski and Kothari, 2008; Chen, 2010; Ertugrul and Krishnan, 2014). Our findings suggest that a move to separate the provision of expert opinions and financial advisory services in the U.S. would benefit target shareholders and directors. This is timely, considering court cases subsequent to Kisgen *et al*. (2009), have ruled that directors cannot rely on reports provided by conflicted experts as a means of showing they have acted within their fiduciary responsibility.

The remainder of this paper is structured as follows. Section 2 describes the regulatory background and develops the hypotheses. Section 3 outlines the research method and Section 4 discusses the results. Section 5 discusses additional analyses and conclusions are presented in Section 6.

2. Background Literature and Hypothesis Development

2.1. Expert Opinions

In the U.S., acquiring and target firm expert opinions are typically provided by the same investment bank that provides financial advisory services, leading to a potential conflict of interest (Kisgen *et al*., 2009). Cain and Denis (2013) highlight this conflict of interest, finding 82% of target advisers receive a fee contingent on deal outcome. Due to contingent fees, investment banks have an incentive to provide favourable expert opinions to help complete deals. Prior U.S. studies have predominantly focused on the bidders', rather than the target firms' decision to obtain an expert opinion (Chen, 2010; Frye and Wang, 2010; Evans *et al*., 2011).[10] An exception is Kisgen *et al*., (2009); they find that obtaining expert opinion services by the target firm does not improve the likelihood of deal completion and takeover premiums. They conclude that obtaining an expert opinion provides little value to target shareholders, and are used only to provide legal protection to the board of directors.[11] A recent study by Liu (2020) finds that U.S. target firms are more likely to obtain a second expert opinion in

[10] Chen (2010) finds that bidders' announcement and subsequent returns are higher when the expert opinion is independent. In contrast, Evans *et al*., (2011) and Frye and Wang (2010) find that bidders who obtain expert opinions have lower announcement returns. In terms of the decision for bidders to obtain expert opinions, Frye and Wang (2010) find the use of expert opinions is positively associated with high uncertainty, board size, the number of outside directors, stock payment, and transaction value, and negatively associated with board business and bidder size.

[11] In contrast, bidding firm expert opinions are associated with lower premiums, lower announcement returns, and a greater frequency of deal completion.

transactions in which there are large conflicts of interest, and the hiring of a second independent expert is associated with higher target firm announcement returns.

The provision of expert opinions and financial advisory services by the same firm has proved to be controversial in North America, with recent court cases bringing into question the legal protection of reports with potential conflicts of interest. In the U.S., the 2014 Rural Metro Corporation case in the Court of Chancery of Delaware found that company directors should ensure their financial advisor is free from any conflicts of interest, such as contingency success fees when issuing a fairness opinion. Similarly, in Canada, the 2009 judgement by the Ontario Securities Commission found that a fairness opinion provided by a financial advisor who was to be paid a deal completion fee, did not assist directors in demonstrating due care in fulfilling their fiduciary duties.[12]

In Australia, under Section 640 of the Australian *Corporations Act 2001 (Cwth)* (the Corporations Act), target firms must engage an independent expert when the target and bidding firm share a common director, or the bidding firm owns 30% or more of the target firm at the date of the takeover announcement. Target firms not required under the Corporations Act to commission an independent expert report may do so voluntarily. The role of the independent expert is to provide an opinion as to whether the offer price is fair and reasonable. Expert opinions are expected to be beneficial to target shareholders as bidding firms know they are required to offer a price that an independent expert would consider fair and reasonable, or risk shareholders and target directors rejecting the offer.

Section 648A of the Corporations Act indicates that an independent expert must not be an associate of the target or bidding firm. Furthermore, the expert is required to disclose any

[12] This opinion from the Ontario Securities Commission was expressed in a decision regarding the proposed acquisition of Lundin Mining Corporation by Hudbay Minerals Inc. The decision is available at: https://www.osc.gov.on.ca/

relationship with the target and bidding firm, and any financial or other interest which is capable of affecting their ability to provide an unbiased opinion. The Australian Securities and Investments Commission (ASIC) has released a number of guidance notes which highlight that independent experts should be perceived to be free of conflicts of interest. For instance, guidance note RG 112 'Independence of experts' states (para 112.8) that an expert "must be, and must appear to be independent."[13] ASIC also indicates that they will consider regulatory action if they have concerns about the independence of an expert (para 112.10). The guidance note effectively prohibits financial advisors in takeovers from preparing expert reports by indicating that such firms should "seriously consider declining an engagement" (para 112.25). Due to this legislative provision and ASIC's views, expert opinions in Australian takeovers are not provided by target firm financial advisors, and hence the conflict of interest observed in Cain and Denis (2013) is removed.

Prior research indicates that target firms which voluntarily seek independent expert reports in Australia tend to be large and have high levels of intangible assets (Bugeja, 2007). Target firms are also more likely to obtain independent expert opinions when directors recommend the takeover is rejected, when non-cash consideration is used, and when target directors have higher ownership. In contrast, CEO/Chairperson duality decreases the likelihood of engaging an independent expert. In terms of takeover outcomes, Bugeja (2007) documents that target firms that obtain a voluntary expert report are more likely to receive an increase in the offer price. However, Bugeja (2007) does not examine whether the use or benefits of a voluntary independent expert is influenced by whether the target firm also uses a financial advisor.

[13] Prior to 2011 ASIC expressed similar views in Practice Note 42 'Independence of experts' reports.'

Furthermore, Nguyen (2018) focuses on the type of opinion provided by the independent expert (i.e., fair and reasonable or not fair and reasonable) in the Australian setting and takeover outcomes.[14] Their results indicate that a not fair and reasonable opinion is associated with a larger increase in offer price, and that a fair and reasonable opinion is associated with an increased likelihood of deal success.[15] Similarly to Bugeja (2007), Nguyen (2018) does not control for the presence of a target firm financial advisor nor the joint choice of financial advisors and independent experts, which are addressed in this study.

2.2. Financial Advisory Services

There are several ways financial advisors may create value in M&As. First, financial advisors may reduce transaction costs and suggest acquisition partners to targets and bidders that result in synergies. Second, financial advisors provide advice regarding the adequacy of an offer price, seeking to obtain the highest (lowest) price for the target (bidder) (Bowers and Miller, 1990; Kale *et al*., 2003; Chang *et al*., 2016). In terms of the choice of financial advisors, prior research documents that the use of financial advisory services by the target firm are positively associated with target and bidder firm size, the complexity of the deal, takeover hostility, and whether the bidding firm uses a financial advisor (Kale *et al*., 2003; Forte *et al*., 2010; Ma, 2013; Loyeung, 2019). Moreover, numerous studies have documented positive outcomes associated with the target firm's choice to obtain financial advisory services. The target firm's use of a financial advisor has been found to have a positive impact on takeover premiums and announcement abnormal returns (Ma 2013; Loyeung 2019), with top tier financial advisors shown to increase the bargaining power of the target firm and increase their

[14] Unlike Bugeja (2007), Nguyen (2018) does not disclose if their sample is limited to voluntary and/or compulsory expert reports.

[15] The analysis of offer price revisions in Nguyen (2018) is based on the ratio of final offer price to initial offer price, rather than an indicator variable denoting increases in offer price by the bidder as used in Bugeja (2007). The justification for this approach is to take into account decreases as well as increases in offer price by the bidder (Nguyen, 2018 p.150). Caution is advised in regards to this reasoning and analysis as Sections 649B and 650B of the Australian Corporations Act only permit upwards revision in the offer price by a bidding firm.

merger gains (Ertugrul 2015). Furthermore, Kale *et al*., (2003) document that hiring a financial advisor with a higher relative reputation to that of the bidder is a value increasing decision. In this study, we focus on the target's choice of financial advisory services in conjunction with the services of independent experts to examine whether the additional choice to obtain the services from independent experts augments the benefits flowing from the use of financial advisors alone.

2.3 Hypothesis Development

Our analysis focuses on target firms where the use of independent expert services is voluntary. Our hypotheses are developed based on the assumption that target firms make the decision to hire a financial advisor prior to determining whether to engage an independent expert. We make this assumption for a number of reasons. First, we undertook interviews with M&A practitioners and the findings suggest that target firms engage financial advisors during the negotiation phase of a takeover and prior to the public announcement of the offer. Second, the continuous disclosure requirements in Australia indicate that takeover negotiations can only remain confidential if the deal is incomplete and negotiations are continuing. As the function of an independent expert is to express an opinion on the adequacy of the offer price, we argue that an independent expert is unlikely to be hired until the deal proposal is complete and the offer price is known.[16] At this point in time, the takeover is required to be publicly announced on the Australian Securities Exchange (ASX). Third, an examination of the takeover announcements in our sample, indicates that the expert report is never publicly released prior to or on the date of the first public announcement of the takeover. Typically the expert report

[16] This contrasts with the U.S. setting outlined in Figure 1 in Liu (2020), whereby the firm receives the expert opinion before the bid is announced publicly. Similarly, Cain & Denis (2013) find 88 percent of expert reports are dated before the M&A announcement date.

is attached to the documentation issued by the target firm several weeks after the first public announcement of the takeover.

As such, we claim that the target firm typically engages financial advisors prior to hiring an independent expert. Since a financial advisor's fees are usually contingent on deal success, we predict that a financial advisor encourages the target firm to engage an independent expert when the takeover premium offered is deemed inadequate. The use of an independent expert in this scenario is conjectured to be motivated by the target firm's financial advisor's incentives to pressure the bidder to increase the offer price and raise the likelihood of deal success. This outcome would also be in the interest of target firm shareholders. This leads to our first hypothesis:

H1: For firms using financial advisors, the probability of obtaining an independent expert report is negatively associated with initial takeover premiums.

While studies conducted in the U.S. setting find that the use of independent expert opinion services do not improve target shareholder outcomes in terms of higher takeover premiums or greater deal completion (Kisgen *et al*., 2009), Australian studies document that expert report services have positive effects when the independent expert is independent. For example, Bugeja (2007) finds that the use of voluntary independent expert services increases the likelihood of an upward revision in the offer price. Nguyen (2018) focuses on the type of expert opinion provided (i.e. fair and reasonable and not fair and reasonable) and finds that the type of expert opinion is associated with offer price revisions and deal outcome. Moreover, some evidence suggests that the use of financial advisors benefits target firms in terms of higher bargaining power, value creation, deal completion, and higher takeover announcement returns (Kale *et al*., 2003; Ismail, 2010; Ma, 2013; Ertugrul, 2015; Chang *et al*., 2016).

Consistent with prior literature (Bowers and Miller, 1990; Kale *et al*., 2003; Kisgen *et al*. 2009; Nguyen, 2018), we argue that the use of independent experts and financial advisory services provide distinct services to the target firm. Given the documented benefits flowing from each of the services, we contend that obtaining *both* an independent expert opinion and financial advisory services improves outcomes for target shareholders relative to the use of financial advisory services alone. Following on from our discussion above which asserts that independent experts are hired after the first public announcement of the deal, we expect that the benefit of independent experts for target shareholders involve outcomes which occur post-deal announcement.[17] This leads to our second hypothesis:

H2a: Obtaining both an independent expert report and financial advisory services is positively associated with the likelihood of receiving an upward price revision.

H2b: Obtaining both an independent expert report and financial advisory services is positively associated with deal completion.

3. Research Method

3.1 Sample Selection.

We identify a sample of 1,482 acquisition offers for Australian publicly listed firms during the period 1997–2016 from the Connect 4 Mergers and Acquisitions database. We exclude 405 takeovers where financial and deal characteristics data required to estimate our regression models are missing.[18] Takeover documents lodged with the ASX showed 386 deals required the target to obtain an independent expert report under the requirements of the

[17] For this reason we do not examine if the use of independent experts influence target firm announcement abnormal returns.

[18] The primary causes of insufficient data for the 417 excluded observations include acquisitions by private companies, foreign listed companies, and the absence of required information in the databases.

Corporations Act. These 386 observations are excluded from our analysis. From the remaining 679 target firms, we remove 211 observations from the main analysis where no financial advisor was hired, leaving a test sample of 480 observations. In Section 5 we perform robustness testing after including these 211 observations without financial advisors and the results remain robust. A summary of the sample selection process is outlined in Table 1.

INSERT TABLE 1 HERE

Target firm takeover documents are used to collect details on target firm director ownership, corporate governance characteristics, and the target firm recommendation to shareholders on whether to accept or reject the bid. We also collect information on the independent expert opinion when available. The bidding firm takeover documents are used to collect information on the initial offer price, method of payment, and toehold interest. Announcements to the ASX are used to collect details on the type of acquisition (i.e., scheme of arrangement or takeover offer), revisions in offer price, and to identify takeovers in which there were competing bidders. Company level financial information is obtained from the Morningstar DatAnalysis database.

3.2. Independent Expert Use and Initial Takeover Premiums

To test *H1* we estimate a logit regression for the sample of target firms that engage a financial advisor that identifies the characteristics of target firms that also voluntarily obtain an independent expert report.

$$Voluntaryexp_{i,t} = \beta_0 + \beta_1 Premium_{i,t} + \beta_2 Bidadvisor_{i,t} + \beta_3 Lndealvalue_{i,t} + \beta_4 Paycash_{i,t} + \beta_5 Toehold_{i,t} + \beta_6 Friendly_{i,t} + \beta_7 Scheme_{i,t} + \beta_8 Multiplebid_{i,t} + \beta_9 Tgtmb_{i,t} + \beta_{10} Tgtroe_{i,t} + \beta_{11} Tgtfcf_{i,t} + \beta_{12} Tgtdirown_{i,t} + \beta_{13} Tgtexecratio_{i,t} + \beta_{14} Tgtbdsize_{i,t} + \beta_{15} Tgtduality_{i,t} + TgtIndustry + year + \varepsilon_{i,t} \quad (1)$$

Our dependent variable *Voluntaryexp* is an indicator variable equal to 1 if the target firm has voluntarily hired an independent expert to provide an opinion on the offer price, 0 otherwise. Our test variable of interest is *Premium*, which is the takeover premium measured as the initial offer price minus the target share price two months prior to the takeover announcement, divided by the share price two months before the announcement date. We predict a negative coefficient on this variable, indicating that the use of independent experts increases when the initial takeover premium is lower.

The control variables included in Model (1) are consistent with prior research. We control for the bidding firm's use of a financial advisor and expect target firms are more likely to obtain services from an independent expert to increase their negotiating power during the deal process. We control for deal complexity using deal value (*Lndealvalue*) and method of payment (*Paycash*); larger and more complex deals are likely to increase the demand for an independent expert, while deals involving equity payments lead to increased uncertainty surrounding the value of the offer (Bugeja, 2007; Kisgen *et al*., 2009). When the acquirer has a larger toehold (*Toehold*), the incentives of the acquirer are more aligned with those of the target shareholders, hence increasing the demand for expert reports (Kisgen *et al*., 2009). As friendly deals (*Friendly*) are less likely to be viewed as independent, we expect target firm directors to demand an independent expert report for purposes of legal protection. We also include a control for acquisitions structured as a scheme of arrangement (*Scheme*), as these deals are typically friendly in nature (Bugeja *et al*., 2016). Moreover, we expect the demand for an independent expert opinion to be lower when there are competing bids for the target (*Multiplebid*), as the competing offers provide increased information on the target firm's value.

We control for target firm growth options and performance using the market-to-book ratio (*Tgtmb*), return on equity (*Tgtroe*) and free cash flow (*Tgtfcf*), as better performing target firms are predicted to be more likely to obtain independent expert reports. We also argue that

firms with strong corporate governance implement a more thorough due diligence process and demand independent expert reports. Thus, following Kisgen *et al*., (2009), we control for director ownership (*Tgtdirown),* the proportion of executive directors (*Tgtexecratio*), board size (*Tgtbrdsize*), and duality of the chair and CEO (*Tgtduality*). Model (1) also includes controls for target industry (using two-digit GICS codes) and year fixed effects.

3.3. Target Firm M&A Outcomes and the Use of Both Services

Next, we test whether the use of *both* a financial advisor and an independent expert improves takeover outcomes for target firm shareholders relative to using only a financial advisor. Specifically, we test if the likelihood of an increase in offer price or the probability of deal completion increases with the use of both a financial advisor and an independent expert. To test *H2a* examining the influence of using both services on the likelihood of receiving an improved bid, we estimate the following logit regression model.

$$Pricerevision/Revisionratio_{i,t} = \beta_0 + \beta_1 Both_{i,t} + \beta_2 FR_{i,t} + \beta_3 Bidadvisor_{i,t} + \beta_4 Premium + \beta_5 Lndealvalue_{i,t} + \beta_6 Paycash_{i,t} + \beta_7 Toehold_{i,t} + \beta_8 Friendly_{i,t} + \beta_9 Scheme_{i,t} + \beta_{10} Multiplebid_{i,t} + \beta_{11} Tgtmb_{i,t} + \beta_{12} Tgtroe_{i,t} + \beta_{13} Tgtfcf_{i,t} + \beta_{14} Tgtdirown_{i,t} + \beta_{15} Tgtexecratio_{i,t} + \beta_{16} Tgtbrdsize_{i,t} + \beta_{17} Tgtduality_{i,t} + TgtIndustry + year + \varepsilon_{i,t} \quad (2)$$

The dependent variable *Pricerevision* is an indicator variable equal to 1 if the target firm receives an improved takeover offer price, 0 otherwise. We also test *H2a* using an OLS regression with the dependent variable respecified (*Revisionratio*) as the ratio of the final offer price to initial offer price minus one (Nguyen, 2018). To test *H2b* we re-run Model (2), and replace the dependent variable with the binary variable *Complete,* which is an indicator variable equal to 1 if the deal is successfully completed, 0 otherwise. The key test variable (*Both*) is an

indicator variable denoting target firms which engage both an independent expert and a financial advisor. *H2a* and *H2b* predict a positive coefficient on this variable.

Control variables are used consistently across both Model (1) and (2). As Nguyen (2018) finds that the expert opinion influences price revisions and deal outcome, a control is included for the type of opinion provided by the independent expert using an indicator variable (*FR*) coded as one if a fair and reasonable opinion is provided, zero otherwise.[19] We control for the bidder's use of a financial advisor; as we expect this to be positively associated with bid revisions and deal completion as the fees of financial advisors in bidding firms are reliant on deal completion (Rau, 2000). A control is included for the takeover premium as it is expected that a higher initial premium reduces the chance of an increased offer price and raises the probability of deal success (Officer, 2003; Henry, 2004). Larger target firms (*Lndealvalue*) have increased bargaining power to negotiate increases in offer prices (Bugeja, 2007) and are associated with a lower likelihood of a successful takeover outcome (Cotter and Zenner, 1994; Officer, 2003). We control for the method of payment (*Paycash*) as target firms are more likely to receive a price revision when the method of payment is cash (e.g. Bugeja 2007; Nguyen, 2018), and cash bids lower the likelihood of deal rejection or a competitive bid (Fishman, 1989). Moreover, Henry (2004), Chapple *et al*., (2007) and Nguyen (2018) find a higher toehold (*Toehold*) improves the probability of deal success. However, a higher toehold suggests that the bidder needs to convince less shareholders to accept the offer price leading to a lower likelihood of a price revision (Stulz, 1988; Bugeja, 2007).

[19] To avoid multicollinearity we do not simultaneously include separate indicator variables for a fair and reasonable and not fair and reasonable opinion in the regression analysis. As expert opinions are by definition only issued in the presence of an independent expert, the inclusion of both variables would be almost perfectly correlated with the main test variable (*Both*). The conclusions from our analysis are qualitatively unchanged if we include a control for not fair and reasonable opinions in the testing in place of the fair and reasonable indicator variable (*FR*).

When directors recommend deal acceptance (*Friendly)*, the takeover is more likely to succeed (Bates and Lemmon, 2003; Officer, 2003; Henry, 2004; Chapple *et al*., 2007) and the chance of an offer price revision is reduced (Bugeja, 2007). In addition, the presence of competing bidders (*Multiplebid*) increases the likelihood of an offer price revision (Bugeja, 2007; Nguyen, 2018) but reduces the probability of a successful takeover outcome (Holl and Kyriazis, 1997; Bates and Lemmon, 2003; Officer, 2003; Henry, 2004).

Following Comment and Schwert (1995) and Schwert (2000), we control for measures of target firm performance (*Tgtmb*, *Tgtroe* and *Tgtfcf*) and expect better performing target firms to be more likely to receive increases in the offer price and to have a successful deal. We also control for a number of corporate governance measures. Target firms with a higher level of board share ownership (*Tgtdirown*) and a larger board size (*Tgtbdsize*) have an increased bargaining position during deal negotiations that may lead to better outcomes for target firms. An independent board (*Tgtexecratio*) (Cotter *et al*., 1997) has been found to increase the likelihood of an offer price increase. We also control for acquisition form, using an indicator variable denoting a scheme of arrangement (*Scheme*). Finally, we argue that corporate governance is weaker when the role of the CEO and chairperson is held by the same person (*Tgtduality*). We also control for year and target industry fixed effects. Table 2 provides a summary of the definitions of all variable used in the analysis.

INSERT TABLE 2 HERE

4. Descriptive statistics and Results

4.1. Descriptive Statistics

Descriptive statistics for the variables included in the regression models are provided in Table 3. Column (1) presents descriptive statistics for target firms that use a financial advisor

only. The descriptive statistics for target firms using both a financial advisor and an independent expert are reported in Column (2). A univariate test of the difference in means for each variable across the two groups of target firms is presented in Column (3). It is interesting to note that Table 3 indicates that the sample is approximately equally split into target firms that do and do not engage an independent expert. Consistent with our first hypothesis, relative to the use of a financial advisor only, takeover premiums (*Premium*) are significantly lower (on average by 10.5%) when both a financial advisor and an independent expert are used. This finding suggests that the financial advisor recommends that the target firm engage an independent expert to assist in negotiating an increased offer price. Deal completion is significantly higher when both services are used, providing initial support for *H2b.* However, inconsistent with *H2a,* the likelihood of a price revision and the price revision ratio are not significantly different between the two groups at the univariate level.

INSERT TABLE 3 HERE

Many of the control variables are significantly different between the two groups of target firms. Consistent with increased complexity, we find that the use of both an independent expert and financial advisor is significantly more likely in larger deals and when non-cash consideration is offered as payment. We also find that both services are more likely to be used in friendly takeovers consistent with a legal protection hypothesis. Among the governance variables, we find that target director ownership is significantly higher and board size is significantly lower when only a financial advisor is engaged. The evidence also suggests that better performing target firms (*Tgtroe* and *Tgtfcf*) are significantly more likely to use both a financial advisor and independent expert.

4.2 Voluntary Independent Experts and Initial Takeover Premium

As shown in Table 1, to test *H1* we restrict our analysis to target firms that engage a financial advisor and estimate Model (1).[20] The findings from this test provide an indication of the factors that are associated with target firms commissioning an independent expert report. The results are shown in Table 4. We find results consistent with *H1*, that an independent expert report is significantly more likely to be obtained when there is a lower initial takeover premium.

INSERT TABLE 4 HERE

The findings on the control variables indicate that consistent with the legal protection hypothesis (Kisgen *et al*., 2009), voluntary expert reports are more likely to be obtained when the bid is structured as a scheme of arrangement (*Scheme*) as these acquisitions are typically friendly in nature. The use of independent experts is also significantly lower when there are multiple bidders for the target firm (*Multiplebid*) as the competition reveals information to the market on the target value, reducing uncertainty. Finally, consistent with an agency explanation and Kisgen *et al*., (2009), target firms are also more likely to obtain an independent expert report when the board has lower share ownership (*Tgtdirown*).

4.3 The Use of Both Independent Expert and Financial Advisory Services and Takeover Outcomes

We next estimate Model (2) to test *H2a*. The first test examines whether using both an independent expert and financial advisory service increases the likelihood that the bidder raises their offer price relative to when only a financial advisor is engaged. The results using *Pricerevision* and *Revisionratio* as the dependent variable are presented in Columns (1) and (2) of Table 5 respectively. We find that relative to using only a financial advisory service, using

[20] Including only targets that hire a financial advisor in the test reduces the need to control for selection bias around the choice to use a financial advisor. The additional analysis in Section 5 includes all target firms in the analysis.

both (*Both*) services significantly increases the likelihood of a revised offer price, but not the size of a price revision.[21] Inconsistent with the results in Nguyen (2018), we do not find that the type of expert opinion influences either the likelihood or size of offer price revisions.[22] Consistent with expectations, price revisions are more likely when there are competing bidders (*Multiplebid*) and are less likely when the takeover is friendly (*Friendly*) or the acquisition is structured as a scheme of arrangement (*Scheme*). Similar to Bugeja (2007), we also find that the likelihood of price revisions (but not size of the revision) are more likely in cash bids (*Paycash*) and when the size of the deal is larger (*Lndealvalue*). The impact of deal size is likely due to the target firm's greater bargaining power. Interestingly the takeover premium is not associated with the likelihood or size of offer price revisions.

INSERT TABLE 5 HERE

A possible concern with our results is the issue of selection bias. Specifically, it is possible that an omitted correlated variable explains the choice of target firms engaging an independent expert after they have already hired an advisor, and this omitted variable explains our findings on the effect of using both services on offer price revisions. As an attempt to control for selection bias we use a bivariate probit model when *Pricerevision* is used as the dependent variable. Alternatively, we use a Heckman (1979) two-stage approach when *Revisionratio* is used as the dependent variable and include the inverse Mills ratio (*InvMills*) as an additional independent variable in the second-stage regression. For both the bivariate probit model and Heckman (1979) two–stage approach we estimate a first-stage probit model predicting independent expert use. The results of this first-stage probit model are not tabulated

[21] The results on *Both* and *FR* remain insignificant if the regression presented in column (2) is re-estimated only using takeovers which have an offer price revision.
[22] In untabulated analysis replacing the fair and reasonable expert opinion indicator variable with an indicator variable for a not fair and reasonable opinion also provides insignificant results.

and provide the same conclusions on the determinants of independent expert use as shown in Table 4. The findings from this regression are then used to re-estimate the impact of using both a financial advisor and an independent expert on both the likelihood and size of offer price revisions.[23] The results of the bivariate probit and Heckman (1979) models are presented respectively in columns (3) and (4) of Table 5. The findings are consistent with those in column (1) and (2) and indicate that the use of an independent expert significantly increases the likelihood (but not the size) of a revision in offer price. Other than the significance of the coefficient on *Scheme* the conclusions from the control variables also remain consistent.

To test *H2b*, in Table 6 we analyse the impact of using both an independent expert and financial advisor on takeover completion (*Complete*). The results in Column (1) show that obtaining both services increases the probability of deal success relative to using financial advisory services alone. Inconsistent with Nguyen (2018) a fair and reasonable opinion is not associated with deal completion.[24] As expected, the results on the control variables show that deal success is significantly higher in friendly bids (*Friendly*) and lower when there are competing offers (*Multiplebid*). We also find that cash bids (*Paycash*) and deals with a higher toehold (*Toehold*) and premium (*Premium*) are also more likely to succeed. Interestingly, target firm CEO-chairperson duality (*Tgtduality*) is negatively related to a successful takeover outcome. These results contribute to the literature, as prior research has found that independent expert report use by target firms is not associated with deal completion (Kisgen *et al*., 2009). Our findings indicate that target firms are more likely to achieve deal completion when they use financial advisory services and also commission an expert report from an independent firm.

[23] The use of a bivariate probit model and Heckman (1979) two-stage approach requires the identification of an exclusion variable which can be included in the first stage regression and validly excluded from the second stage models. We use target director ownership (*Tgtdirown*) as an exclusion variable as our findings indicate that it is associated with the use of independent experts but not price revisions.

[24] Similar (untabulated) insignificant results are obtained if a not fair and reasonable opinion is used in place of a fair and reasonable opinion.

INSERT TABLE 6 HERE

Using an identical approach to that described above, we control for selection bias using a bivariate probit approach. The results of the second-stage model are presented in Column (2) of Table 6. Consistent with the original findings we document that the use of both a financial advisor and independent expert significantly increases the likelihood of a successful takeover. The results on the control variable (except for *Premium* and *Toehold*) remain consistent with the main results.

Overall, our findings are consistent with target firms being more likely to commission both services when the financial advisor has been unable to negotiate a reasonable premium from the bidder. The outcomes of takeovers also broadly support the view that these services, used in combination, are beneficial to target shareholders as it results in a higher probability of deal completion and a higher probability of an upward price revision. These results are robust to controlling for self-selection through the use of a bivariate probit method. Interestingly, inconsistent with Nguyen (2018) we find that the independent expert opinion does not influence price revisions or takeover outcome.

5. Additional Analyses and Sensitivity Testing

5.1 Impact of Advisor Use on the Independent Expert's Opinion

As an additional test, we analyse whether the opinion issued by the independent expert is associated with the presence of a financial advisor. To conduct this analysis, we combine the sample of 247 target firms that engage both a financial advisor and independent expert, with the sample of 67 target firms, which employ only an independent expert. Descriptive statistics for these 67 observations are provided in column (4) of Table 3, along with a statistical comparison to those firms that engage both an expert and a financial advisor (column 5 of

Table 3). This comparison indicates that firms with only an independent expert are significantly smaller, less profitable, have higher director ownership, smaller boards and are less likely to be involved in takeovers including a bidding firm advisor.

We estimate the following model to examine the influence of financial advisor use on expert opinions:

$$FR_{i,t} = \beta_0 + \beta_1 Tgtadvisor_{i,t} + \beta_2 Bidadvisor_{i,t} + \beta_3 Lndealvalue_{i,t} + \beta_4 Paycash_{i,t} + \beta_5 Toehold_{i,t} + \beta_6 Friendly_{i,t} + \beta_7 Multiplebid_{i,t} + \beta_8 Tgtmb_{i,t} + \beta_9 Tgtroe_{i,t} + \beta_{10} Tgtfcf_{i,t} + \beta_{11} Premium_{i,t} + TgtIndustry + year + \varepsilon_{i,t} \quad (3)$$

Our dependent variable *FR* is an indicator variable equal to 1 if the independent expert issues a "fair and reasonable" opinion in regards to the offer price, 0 otherwise. In our sample, 66% of the expert reports result in a "fair and reasonable" opinion. The main variable of interest is the coefficient on *Tgtadvisor*. On the one hand, the presence of an advisor may put pressure on the expert to provide a favourable opinion due to the contingent nature of their fees. Alternatively, the financial advisor may prefer a negative opinion from the expert to extract an offer price revision, leading to improved outcomes for target shareholders. We control for initial takeover premiums, deal value, payment method, and a number of other target firm financial characteristics. The results of estimating Model (3) are presented in Table 7. All variables are consistent with those defined earlier.

INSERT TABLE 7 HERE

The findings indicate that there is no significant association between the presence of a target firm financial advisor and the independent experts' opinion. This result provides empirical evidence consistent with the independent expert report being truly independent of the financial advisor. Among the control variables, we find that the independent expert is more

likely to find the offer is "fair and reasonable" when equity is offered as payment (*Paycash*) and there are competing bidders (*Multiplebid*). Consistent with the results in Bugeja (2005), there is a significant positive association between an accept recommendation from the target firm board (*Friendly*) and the provision of a "fair and reasonable" opinion. We also document that schemes of arrangement (*Scheme*) are more likely to receive a "fair and reasonable" expert opinion. Surprisingly, there is no association between the size of the takeover premium and the independent expert's opinion.

We use a bivariate probit model to control for selection bias in appointing a financial advisor. The first-stage model (results not tabulated) restricts the sample to targets that engage an independent expert and predicts firms that also appoint a financial advisor. This model uses similar control variables to those employed in Table 4. The results from using the bivariate probit model are reported in Column (2) of Table 7. The conclusions from this analysis on the effect a target advisor has on the opinion of the independent expert of the target firm are consistent with those using the logit model presented in Column (1).

5.2 Influence of financial advisor and expert use on deal completion time

As an additional test, we examine whether the use of both financial advisors and independent experts is associated with deal completion time. On the one hand, the use of both services may facilitate the more timely completion of deals. Alternatively, as the evidence in Table 5 suggests that the joint use of experts and financial advisors leads to an increased frequency of offer price revisions it is possible that deals with both services take longer to complete.

To conduct our additional test we modify regression model (2) and respecify the dependant variable as the deal completion time in days. Deal completion time is measured

from the date of the takeover announcement until the close of the takeover period.[25] The control variables included in this OLS regression are unchanged. The findings from estimating this model (untabulated) show an insignificant effect of the use of both an expert and financial advisor on completion time.[26] A fair and reasonable expert opinion is also insignificant.

5.3 Impact of boutique and top tier financial advisors

Prior research has examined the influence of the type of target firm advisor (e.g., rank and boutique nature) on target shareholder outcomes (Rau, 2000; Da Silva Rosa *et al*., 2004; Song *et al*., 2013; Loyeung, 2019). To examine the impact on our findings of the type of financial advisor we conduct a number of additional tests. These tests follow the approach in the Australian study by Loyeung (2019) and use an indicator variable (*TIER1*) to identify as top tier those financial advisors that rank in the top 5 advisors by deal value in each year of the sample. Similarly, we follow Loyeung (2019) and define boutique advisors (*BOUTIQUE*) using an indicator variable set equal to 1 if the financial advisor focuses mainly on providing advisory services or specialises in certain industries but does not provide the full spectrum of services or diversified business lines (such as equity and debt underwriting, project financing, and commercial banking).

In our first additional test, we examine if boutique or tier 1 advisors are associated with the choice to hire an independent expert. To conduct this test we adapt model (1) by including the *BOUTIQUE* and *TIER1* indicator variables. The results of this analysis (untabulated) show a significant and positive association between the use of tier 1 advisors and expert use, and an insignificant effect of boutique advisors. In our next set of additional tests we examine the influence of the use of respectively top tier advisors and boutique advisors along with an independent expert on price revisions and takeover completion. To conduct the tests for tier 1 advisors we create three indicator variables:

BothTier1= 1 if the target has an independent expert and a Tier 1 advisor;
BothNotTier1 = 1 if the target has an independent expert and a non-Tier 1 advisor;

[25] The mean and median completion time are respectively 91 and 104 days.
[26] Findings remain insignificant if the model is estimated only for successful takeovers or after excluding schemes of arrangement.

Tier1advisoronly = 1 if the target has a Tier 1 advisor and no independent expert.

The base case in this analysis is thus target firms with a non-Tier1 advisor and no independent expert. These three indicator variables are included in the regression models testing price revision and takeover completion. The results (not tabulated) show a positive effect on price revision only when an independent expert is used with a Tier 1 advisor. The findings using revision ratio as the dependent variable are insignificant. For deal completion, we document a positive and significant coefficient for *BothTier1* and *BothnotTier1* and a negative and significant coefficient for *Tier1advisoronly*. Overall, these results are consistent with the original findings and show an improvement in offer price and a greater frequency of deal completion when a target firm uses both an independent expert and a financial advisor.

To conduct the tests for boutique advisors we follow a similar approach and create three indicator variables:

BothBoutique= 1 if the target has an independent expert and a boutique advisor;

BothNotBoutique = 1 if the target has an independent expert and a non-boutique advisor;

Boutiqueonly = 1 if the target has a boutique advisor and no independent expert.

The base case is thus target firms with a non-boutique advisor and no independent expert. The results (not tabulated) show a positive effect on price revision only when an independent expert is used with a non-boutique advisor. For deal completion, we document a positive and significant coefficient for *BothBoutique* and *BothnotBoutique* consistent with an improvement in deal completion when a target firm uses both an independent expert and any type of financial advisor. The results using revision ratio as the dependent variable are once more insignificant.

5.4 Use of the complete sample for analysis

Our main analysis excludes firms which do not appoint a financial advisor to reduce the complexity associated with multiple self-selection biases (i.e., use of both an expert and advisor vs use of advisor alone vs use of expert alone vs use of neither an expert nor advisor). To provide additional evidence on the effect of using both an expert and advisor we re-estimate a revised model (2) using the complete sample of target firms. In other words, we add back into our analysis 144 target firms which engage neither an expert nor advisor, and 67 target firms which engage only an expert. We add to the updated version of model (2) two

new indicator variables: *Tgtexpert_only* which is coded as one for target firms which engage only an independent expert, and zero otherwise; *Tgtadvisor_only*: which is coded as one for target firms which engage only a financial advisor, and zero otherwise. The base case in the regression model is therefore target firms that engage neither a financial expert, nor a financial advisor. This updated version of model (2) is then estimated alternatively using *Pricerevision, Revisionratio* and *Complete* as the dependent variable. The results of this analysis are presented in Table 8.

INSERT TABLE 8 HERE

The results in Table 8 indicate that the use of both an independent expert and financial advisor (*Both*) significantly increase the likelihood and size of a price revision and the probability of deal completion relative to the base case of using neither service. A similar result on the likelihood of a price revision is also found for the use of only an independent expert (*Tgtexpert_only*). Interestingly the use of only a financial advisor (*Tgtadvisor_only*) is not significantly associated with takeover success or an offer price revision. Once more inconsistent with Nguyen (2018) there is no association between price revisions and takeover completion and the type of expert opinion (*FR*). The results for the control variables are largely consistent with the findings in Tables 5 and 6. Overall, the findings using the entire sample of target firms are consistent with the original results, and indicate that the use of both an independent expert and financial advisor lead to better outcomes for target shareholder. We do however stress that the results in Table 8 should be interpreted with caution, due to the multiple selection issues involved with the different combinations of advisor and independent expert use by target firms.

5.5 Further Additional Tests

In further untabulated tests, we estimate a revised version of Model (1) across the full sample of 691 takeovers including firms who did not use a financial advisor, or obtain an independent expert report. This revised version of the model replaces the takeover premium variable with an indicator variable denoting target firms that engage a financial advisor (*Tgtadvisor*). A significant positive coefficient is found on *Tgtadvisor*; this indicates that when a target firm obtains financial advisory services there is an increased likelihood of obtaining an independent expert report. This suggests that target firms perceive these two services as providing additive benefits, and are therefore not substitute services. As an extension of this analysis, we re-estimate the model with the inclusion of the takeover premium as an additional control variable. Similar to *H1*, we predict a negative association between premiums and the use of independent expert reports. The results support this conjecture.

6. Conclusion

Prior literature has investigated the characteristics and consequences of both bidding and target firms obtaining independent expert opinions and financial advisory services in M&As. Prior studies, however, have examined the choice between these two services in isolation, and have ignored potential beneficial effects of using both services. We use the unique features of the Australian M&A environment to extend prior literature by investigating the interrelationship between independent expert and financial advisory services, and how the use of both services by target firms impacts on takeover outcomes in a setting free from conflicts of interest.

We find that target firms choose to obtain both services, relative to a financial advisor alone, when the bidder offers a lower premium. We also show that the use of both services increases the likelihood of takeover success and the frequency of an offer price revision. Overall, our results are consistent with better takeover outcomes for target shareholders when the target firm obtains financial advisory services and independent expert services from

different firms. Interestingly, these results are in contrast to the U.S. findings in Kisgen *et al*., (2009), suggesting that having the same firm provide both takeover advice and expert opinions to target firms leads to worse target firm outcomes (Liu, 2020). Our results contribute to the academic literature by showing that financial advisors can provide valuable advice to clients when their conflict of interest is removed (Stouraitis, 2003). Our findings thus suggest that U.S. regulators need to revisit rules that allow independent expert reports to be prepared by the same firm that is engaged as the financial advisor.

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Table 1 Sample Selection

This table describes the sample selection process

Takeovers of all Australian target firms from 1997 to 2016	1,482
Less: takeovers with missing financial data and deal characteristics	–405
Less: target firms with a compulsory expert report	–386
Less: firms that did not hire a financial advisor	–211
Test sample	480

Table 2 Variable Descriptions

This table provides definitions of variables used in the analysis.

Variable name	Definition
Voluntaryexp	an indicator variable equal to 1 if the target firm has voluntarily hired an independent expert, 0 otherwise;
Complete	an indicator variable equal to 1 if the takeover is successful, 0 otherwise;
Pricerevision	an indicator variable equal to 1 if the offer price is increased, 0 otherwise;
Revisionratio	The ratio of the final offer price to initial offer price minus one;
Both	an indicator variable equal to 1 if the target firm obtains engages both an independent expert and financial advisory services, 0 otherwise;
Tgtadvisor_only	an indicator variable equal to 1 if the target firm obtains financial advisory services but does not obtain an expert report, 0 otherwise;
Tgtexpert_only	an indicator variable equal to 1 if the target firm obtains an independent expert report but does not use financial advisory services, 0 otherwise;
Premium	the takeover premium calculated as the initial offer price minus the target share price two months prior to the takeover announcement, divided by the share price two months prior to the takeover announcement;
FR	an indicator variable equal to 1 if the independent expert expresses a "Fair and reasonable" opinion in the expert report, 0 otherwise;
Bidadvisor	an indicator variable equal to 1 if the bidding firm obtains financial advisory services, 0 otherwise;
Tgtadvisor	an indicator variable equal to 1 if the takeover target obtains financial advisory services, 0 otherwise;
Lndealvalue	the natural logarithm of takeover deal value;
Paycash	an indicator variable equal to 1 if the method of payment is exclusively cash, 0 otherwise;
Toehold	the toehold stake of the bidder in the target firm at the date of the announcement of the takeover;
Friendly	an indicator variable equal to 1 if the initial recommendation of the target firm board is takeover acceptance, 0 otherwise;
Scheme	an indicator variable denoting acquisitions which are structured as a scheme of arrangement, 0 otherwise;
Multiplebid	an indicator variable equal to 1 if there is more than one simultaneous bidder for the target firm, 0 otherwise;
Tgtmb	target firm market-to-book ratio calculated two months prior to the takeover announcement;
Tgtroe	target firm return on equity ratio calculated for the financial year prior to the takeover announcement;
Tgtfcf	target firm free cash flow calculated as operating cash flow minus dividends scaled by total assets for the financial year prior to the takeover announcement;
Tgtdirown	target firm director percentage ownership in the target firm at the date of the takeover announcement;
Tgtexecratio	the ratio of executive directors to total board size of the target firm at the date of the takeover announcement;
Tgtbdsize	the board size of the target firm at the date of the takeover announcement;

Tgtduality	an indicator variable equal to 1 in target firms where the role of CEO and chairperson are held by the same person at the time of the takeover announcement, 0 otherwise;
InvMills	the inverse Mills ratio calculated using the Heckman (1979) two-stage approach.

Table 3 Descriptive Statistics

This table provides descriptive statistics of all the variables used in the study. Statistics are presented separately for targets engaging only a financial advisor (column 1); both a financial advisor and independent expert (column 2) and only an independent expert (column 4). Statistical test for the equality of means and proportions across the groups of target firms are presented in columns (3) and (5). A *t*-test is used for continuous variables and a proportions *z*-statistic is used for comparison of indicator variables. Two-tailed tests of significance are reported; ***, **, * indicate significance at the 1%, 5% and 10% levels respectively. All variables are defined in Table 2.

	Tgtadvisor_only (n=247 51%)	*Both* (n=233 49%)	*t*-stat/*z*-stat for equality of mean/proportion across groups (1) vs (2)	*TgtExpert_only* (n= 67)	*t*-stat/*z*-stat for equality of mean/proportion across groups (4) vs (2)
	(1)	(2)	(3)	(4)	(5)
Variables	Mean	Mean		Mean	
Premium	0.345	0.240	2.50**	0.196	-0.86
Complete	0.563	0.815	–5.96***	0.732	–1.52
Pricerevision	0.251	0.245	0.16	0.183	-1.08
Revisionratio	0.050	0.062	-0.67	0.090	0.78
FR	-	0.661	-	0.70	0.68
Bidadvisor	0.676	0.717	–0.96	0.338	–6.11***
Lndealvalue	18.673	19.329	–4.35***	17.204	–9.73***
Paycash	0.615	0.446	3.71***	0.338	-1.62
Toehold	0.111	0.081	3.17***	0.089	0.67
Friendly	0.534	0.695	–3.62***	0.718	0.37
Scheme	0.109	0.429	–7.94***	0.437	0.11
Multiplebid	0.283	0.163	3.15***	0.183	0.40
Tgtmb	2.51	2.195	0.85	2.348	0.39
Tgtroe	–0.142	0.025	–2.71***	–0.272	–3.24***
Tgtfcf	–0.028	0.019	–2.31**	–0.106	–4.50**
Tgtdirown	0.111	0.072	3.10***	0.130	3.10***
Tgtexecratio	0.280	0.267	0.77	0.297	1.16
Tgtbdsize	5.443	5.996	–3.59***	4.972	–4.64***
Tgtduality	0.057	0.039	0.94	0.042	0.14

Table 4 Logistic Regression Examining the Target's Choice of Independent Expert and Initial Takeover Premium

This table presents a logit regression estimating the likelihood that a target firm commissions an independent expert report voluntarily. The dependent variable *(Voluntaryexp)* is an indicator variable equal to one if the target firm has voluntarily hired an independent expert, 0 otherwise. The model is estimated across the 480 target firms who are not required to have a compulsory independent expert and whom have a financial advisor. All variables are defined in Table 2. Two-tailed tests of significance are reported. ***, **, * indicate significance respectively at the 1%, 5% and 10% levels.

	Odds ratio	*z*-stat
Premium	0.611	–1.74*
Bidadvisor	1.087	0.32
Lndealvalue	1.104	1.03
Paycash	0.690	–1.47
Toehold	0.528	–0.54
Friendly	1.250	0.79
Scheme	7.816	5.52***
Multiplebid	0.550	–2.00**
Tgtmb	0.979	–0.49
Tgtroe	1.292	0.96
Tgtfcf	2.287	1.06
Tgtdirown	0.117	–2.65***
Tgtexecratio	2.140	1.12
Tgtbdsize	1.064	0.77
Tgtduality	0.737	–0.52
Constant	0.113	-1.19
Target industry controls	*Yes*	
Year controls	*Yes*	
Number of obs	*480*	
Pseudo R^2	*23.71%*	

Table 5 Impact of Both Services on Price Revision (*Pricerevision)*

Column (1) presents results of a logit regression with the dependent variable price revision (*Pricerevision)*, an indicator variable equal to 1 if the offer price is increased, 0 otherwise. In columns (2) an OLS regression is estimated with the revision ratio as the dependent variable. In columns (3) and (4) a bivariate probit and Heckman two-stage approach are estimated respectively to control for selection bias arising from the choice to engage an independent expert. All variables are defined in Table 2. Two-tailed tests of significance are reported. ***, **, * indicate significance respectively at the 1%, 5% and 10% levels.

	Pred sign	*Both relative to financial advisor only* *Logit* *(1)*		*Both relative to financial advisor only* *OLS using revision ratio* *(2)*		*Both relative to financial advisor only* *Bivariate probit method* *(3)*		*Both relative to financial advisor only)* *OLS using revision ratio* *(4)*	
		Odds ratio	*z*-stats	Coef.	*t*-stats	Coef.	*z*-stats	Coef.	*t*-stats
Both	+	1.911	1.72*	0.053	1.44	0.145	2.30**	0.055	1.47
FR	-	0.778	-0.46	-0.019	-0.48	-0.084	-1.03	-0.020	-0.49
Bidadvisor	+	1.817	1.60	0.021	0.95	0.071	1.60	0.022	0.97
Premium	–	1.604	1.51	0.007	0.24	0.040	0.75	-0.003	-0.08
Lndealvalue	+	1.275	1.88*	0.005	0.76	0.041	2.33**	0.007	0.94
Paycash	+	2.175	2.50**	-0.009	-0.38	0.082	1.94*	-0.015	-0.88
Toehold	–	0.389	–0.69	–0.060	–0.63	-0.213	–1.05	-0.070	-0.73
Friendly	–	0.285	–3.51***	–0.035	–1.70*	-0.170	-3.23***	-0.030	-1.47
Scheme	–	0.131	–4.04***	–0.046	–2.47**	-0.138	-1.55	-0.017	-0.45
Multiplebid	+	2.913	2.85***	0.112	2.99***	0.144	2.35**	0.101	2.85***
Tgtmb	+	1.079	1.47	-0.001	-0.50	0.007	0.95	-0.002	-0.65
Tgtroe	+	1.839	1.74*	0.018	1.01	0.060	1.66*	0.024	1.23
Tgtfcf	+	0.786	–0.30	–0.046	–1.11	0.015	0.15	-0.033	-0.83
Tgtdirown	+	0.348	–0.83	0.051	0.79	-	-	-	-
Tgtexecratio	–	0.686	–0.42	0.088	1.59	-0.024	-0.21	0.103	1.83*
Tgtbdsize	+	1.005	0.05	–0.009	–1.14	0.003	0.26	-0.008	-1.03
Tgtduality	–	2.955	1.51	–0.025	–0.93	0.091	0.89	-0.034	-1.13
InvMills	?	-	-	-	-	-	-	0.048	1.05
Constant		0.003	–2.49**	–0.091	–0.80	-0.495	-1.31	-0.157	-1.26
Target industry		*Yes*		*Yes*		*Yes*		*Yes*	
Year controls		*Yes*		*Yes*		*Yes*		*Yes*	
Number of obs		*480*		*480*		*480*		*480*	
F-stat		-		*1.46***		-		1.47**	
Pseudo/Adjusted R^2		*29.51%*		*18.18%*		*29.27%*		18.19%	

Table 6 Impact of Both Services on Deal Completion (*Complete)*

This table presents results of a logit regression with the dependent variable deal completion (*Complete)*, an indicator variable equal to 1 if the takeover is successful, 0 otherwise. In column (2) we use a bivariate probit method to control for selection bias arising from the choice to engage an independent expert. All variables are defined in Table 2. Two-tailed tests of significance are reported. ***, **, * indicate significance respectively at the 1%, 5% and 10% levels.

	Pred Sign	*Both relative to financial advisor only (Tgtadvisor_only) Logit (1)*		*Both relative to financial advisor only (Tgtadvisor_only) Bivariate probit (2)*	
		Odds ratio	*z*-stats	Coef.	*z*-stats
Both	+	3.653	2.93***	0.220	3.65***
FR	+	2.517	1.21	-0.064	-0.96
Bidadvisor	+	1.522	1.15	0.039	1.02
Premium	+	2.204	2.25**	0.052	1.11
Lndealvalue	+	1.124	0.82	0.022	1.51
Paycash	+	2.249	2.19**	0.073	1.94*
Toehold	+	14.521	1.71*	0.279	1.48
Friendly	+	23.391	8.15***	0.505	10.49***
Scheme	+	0.760	-0.46	0.056	0.75
Multiplebid	–	0.167	–4.31***	-0.236	-4.48***
Tgtmb	+	1.053	0.90	0.008	1.27
Tgtroe	+	1.149	0.85	0.040	1.54
Tgtfcf	+	2.428	1.17	0.140	1.45
Tgtdirown	+	0.728	–0.30	-	-
Tgtexecratio	–	1.110	0.13	0.032	0.35
Tgtbdsize	+	0.885	–0.95	-0.004	-0.31
Tgtduality	–	0.045	–5.12***	-0.364	-4.10***
Constant		0.077	-1.03	-0.195	-0.64
Target industry controls		*Yes*		*Yes*	
Year controls		*Yes*		*Yes*	
Number of obs		*480*		*480*	
Pseudo R^2		*49.38%*		*49.54%*	

Table 7 Advisor Use and the Opinion of the Independent Expert

This table presents the results from estimating a logit model predicting the independent expert opinion (*FR)*, an indicator variable equal to 1 if the independent expert issues a "fair and reasonable" opinion, 0 otherwise. In column (2) we estimate a bivariate probit model to control for self-selection of financial advisor use. All variables are defined in Table 2. Two-tailed tests of significance are reported. ***, **, * indicate significance respectively at the 1%, 5% and 10% levels.

	Model predicting fair and reasonable expert opinion (1)		*Model allowing for financial advisor selection using bivariate probit (2)*	
	Odds ratio	*z*-stat	Coef.	*z*-stat
Tgtadvisor	0.610	–0.44	–0.412	–0.63
Bidadvisor	5.064	2.48**	0.923	2.00**
Premium	0.803	-0.20	0.115	0.21
Lndealvalue	1.023	0.11	0.024	0.14
Paycash	0.255	–2.07**	–0.688	–1.53
Toehold	26.674	0.91	1.624	0.70
Friendly	886.743	5.97***	3.652	6.10***
Scheme	277.038	2.57**	2.723	3.85***
Multiplebid	11.371	3.15***	1.302	2.07**
Tgtmb	1.253	2.89***	0.129	1.80*
Tgtroe	0.228	–1.94*	–0.875	–1.76*
Tgtfcf	0.742	–0.15	–0.223	–0.79
Constant	0.027	–0.94	–1.951	-0.69
Target industry controls	*Yes*		*Yes*	
Year controls	*Yes*		*Yes*	
Number of obs	*314*		*314*	
Pseudo R^2	78.73%			

Table 8 Impact of Both Services on Price revision and Deal Completion using the complete sample

This table presents results of a logit/OLS regression with the dependent variable being alternatively an indicator variable denoting a price revision (*Pricerevision)*, price revision ratio (*Revisionratio)* or deal completion (*Complete)*. The results for the regression of price revision are presented in column (1) and the results for the regression of takeover completion are presented in column (2). Column (3) presents the results of an OLS regression with the price revision ratio as the dependent variable. All variables are defined in Table 2. Two-tailed tests of significance are reported. ***, **, * indicate significance respectively at the 1%, 5% and 10% levels.

	Pred Sign	*Test of price revision (1)*		*Test of revision ratio (OLS (2)*		*Test of takeover completion (3)*	
		Odds ratio	*z*-stats	Coef.	*t-stats*	Odds ratio	*z*-stats
Tgtadvisor_only	?	1.135	0.39	0.015	0.81	1.133	0.37
Tgtexpert_only	?	2.631	1.85*	0.100	1.42	2.041	1.29
Both	+	2.155	1.91*	0.082	2.24**	4.525	3.66***
FR	-/+/-	0.733	-0.72	-0.032	-0.76	2.217	1.32
Bidadvisor	+	1.309	1.02	-0.011	-0.48	1.159	0.51
Premium	+	1.054	0.20	0.004	0.18	1.563	1.91*
Lndealvalue	+	1.231	2.13**	0.001	0.11	1.021	0.21
Paycash	+	2.172	3.05***	-0.009	-0.47	1.783	2.14**
Toehold	+	0.386	-0.84	-0.118	-1.46	36.133	3.11***
Friendly	+	0.353	-3.65***	-0.045	-2.21**	28.583	10.68***
Scheme	+	0.162	-4.50***	-0.066	-2.78***	0.439	-1.70*
Multiplebid	−	3.348	4.29***	0.082	2.72***	0.253	-4.30***
Tgtmb	+	1.042	0.99	-0.001	-0.42	1.054	1.21
Tgtroe	+	1.135	0.57	0.010	0.81	1.080	0.61
Tgtfcf	+	0.927	-0.14	-0.032	-1.17	3.194	2.34**
Tgtdirown	+	0.409	-1.04	0.028	0.70	0.764	-0.33
Tgtexecratio	−	0.508	-0.99	0.035	0.80	1.002	0.01
Tgtbdsize	+	1.039	0.50	-0.002	-0.29	0.962	-0.38
Tgtduality	−	1.650	1.24	0.005	0.16	0.080	-4.75***
Constant		0.007	-2.92***	0.029	0.29	0.413	-0.52
Target industry controls		*Yes*		Yes		*Yes*	
Year controls		*Yes*		Yes		*Yes*	
Number of obs		*691*		691		*691*	
F-Stat		-		1.58***		-	
Pseudo/Adjusted R^2		*24.19%*		*47.33%*		10.50%	