Fair Value of Earnouts: Valuation Uncertainty or Managerial Opportunism?

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ABSTRACT: This study investigates the economic consequences of the IFRS 3 (2008) requirement for fair valuing earnouts. Using a hand-collected sample of earnout fair value estimates in acquisitions completed by Australian firms, we find that a significant portion of acquirers overstate initial earnout liabilities and strategically reverse them as operating gains to boost post-M&A earnings. These overstatements are more pronounced when acquirers face investment- and performance-related pressure but attenuated in the presence of high-quality auditors and debt-financed deals. Acquirers also obfuscate earnout-related disclosures, inhibiting investors' assessment of earnout values. By doing so, managers extend their tenure. Further analysis reveals that IFRS 3 (2008) leads to a significant increase in both the frequency and magnitude of earnouts in public acquirers' transactions. Overall, we highlight the accounting benefit of earnouts for acquirers under IFRS 3 (2008), with implications for investors, analysts, auditors, and standard setters.

Data Availability: Data are available from the public sources cited in the text.

JEL Classifications: G34; M41.

Keywords: acquisitions; contingent consideration; earnouts; fair value accounting; financial liability; IFRS 3.

I. INTRODUCTION

This study investigates the economic consequences of the IFRS 3 (2008) requirement for fair valuing earnouts. Earnouts (or contingent consideration) are provisions in acquisition agreements that provide sellers with future payments, conditional upon the target meeting certain predetermined performance goals (Kohers and Ang 2000). The revised IFRS 3

in 2008, for the first time, requires an acquirer to recognize earnouts as a liability at fair value at the acquisition date, with subsequent value changes recognized in profit or loss.[1] This contrasts with the pre-IFRS 3 (2008) practice, where earnout liabilities were seldom recognized and subsequent changes were made against goodwill. The revised earnout accounting is among the most contested changes in IFRS 3 (2008), as "the majority of respondents did not support the proposals" (International Accounting Standards Board (IASB) 2008) and have continued to suggest the IASB "reconsider the accounting for contingent consideration" (International Accounting Standards Board (IASB) 2015). Despite the concerns, there is a lack of comprehensive investigations into earnout accounting practices under IFRS 3 (2008). We thus respond to the IASB's ongoing call for post-implementation review of IFRS 3 by focusing on the Australian context. Importantly, we leverage earnout accounting as a platform to shed light on the interplay between acquisition contracting, financial reporting, and managerial behavior.

Our setting has three primary advantages. First, the availability of fair value estimates and subsequent settlements of earnouts allows us to examine closely "the correspondence between managers' accounting estimates and *ex post* realizations" (Sloan 1999; Dietrich, Harris, and Muller 2000), an opportunity rarely available in fair value accounting research. We thus can scrutinize managers' discretionary application of fair value accounting and assess its reliability. Second, focusing on Australia helps avoid potential confounding factors present in the United States. For example, SFAS 141 (R) introduced changes to both earnout accounting (Cadman, Carrizosa, and Faurel 2014) and the recognition of acquiree's in-process R&D as a separate intangible asset rather than an expense (Chung, Hillegeist, Park, and Wynn 2019). This complicates empirical analyses in the U.S. setting, given the prevalence of its R&D-intensive sectors, where earnouts are common (Cain, D. J. Denis, and D. K. Denis 2011). By studying the Australian setting, where the recognition of acquiree's in-process R&D was already in place under IFRS 3, we gain clearer insights into the implications of earnout accounting. Last, Australia is representative of most IFRS-adopting countries, characterized by small open economies with moderate market monitoring (Wang and Welker 2011), and exhibits a prevalence of earnout usage (Viarengo, Gatti, and Prencipe 2018).[2] This setting enhances the robustness and generalizability of our findings.

Using a hand-collected sample of earnout fair value estimates in acquisitions completed by Australian firms under IFRS 3 (2008), we find that earnout fair value accounting facilitates opportunistic reporting, distorts acquirers' post-acquisition performance, and potentially promotes the use of earnouts. Two key features of earnout fair value accounting appear to drive these consequences. First, IFRS 3 (2008) grants managers discretion in recognizing earnout liabilities. Earnouts are often employed to bridge the valuation gap in acquisitions of private targets and are thus fraught with information asymmetry and uncertainty (Datar, Frankel, and Wolfson 2001; Cain et al. 2011; Barbopoulos and Sudarsanam 2012; Jansen 2020). Despite this, IFRS 3 (2008) removes both the "probable" and "reliably measurable" filters for the recognition of earnout liability. As such, a highly opaque liability can appear on an acquirer's financial statement, even when "the future settlement is remotely probable and its fair value cannot be reliably estimated" (Bhatt 2005; Pitchford 2005).

The second feature is that the revised earnout accounting enables acquirers to obtain a "free" gain when the initial estimate of an earnout liability is adjusted downward (IASB 2008, 2015; Nissim 2019; Accounting and Auditing Enforcement Releases (AAER) No. 3375).[3] This is analogous to the use of restructuring accrual reversals for earnings management (Moehrle 2002) and is a significant point of contention in the debate over earnout accounting. Moreover, the lack of market values or comparables for private targets places earnout liability as a Level 3 measurement within the fair value hierarchy. The subjectivity with unobservable inputs in the valuation process further opens the door to opportunistic reporting (Dechow, Myers, and Shakespeare 2010; Magnan, Menini, and Parbonetti 2015; Black, Chen, and Cussatt 2022). Consequently, IFRS 3 (2008) may shift managers' emphasis from *economic-only* factors of using earnouts (to mitigate uncertainty about the intrinsic value of an acquiree) to *economic-plus-accounting* factors (mitigating valuation uncertainty plus obtaining an earnings boost through earnout accounting) (Plantin, Sapra, and Shin 2008; Chen, Tan, and Wang 2013). This shift potentially enhances the attractiveness of earnouts for acquirers.

Our analysis yields four key findings. First, we uncover a systematic overstatement of earnout liabilities under IFRS 3 (2008). In our sample, 68 percent of the initial earnout liabilities are overstated, with the mean (median) overstatement representing 47 percent (58 percent) of the initial estimate. This implies that, on average, acquirers settle merely half of

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[1] Under IFRS 3 (2008), an acquirer must recognize and present earnouts as a liability or equity at fair value at the acquisition date. Equity-classified earnouts account for less than 5 percent of all transactions in our sample. We present a simplified hypothetical example of accounting for earnout liabilities in Appendix B1.

[2] For example, from 2017 to 2022, the average earnout usage in completed acquisitions by Australian public acquirers was 25.6 percent. The corresponding figures are 11.5 percent in the United States, 14.9 percent in Canada, and 23.4 percent in the United Kingdom (data source: Refinitiv SDC Platinum).

[3] An example of manipulation of earnout liabilities (AAER No. 3775, paragraphs 21–22) is Swisher Hygiene Inc., which managed earnings in 2011 by adjusting its accounting for earnout accruals. Swisher initially recorded a $1 million earnout liability in January 2011, but the performance hurdles related to the earnout payment were not realistic, suggesting that the earnout lacked substance and that the initial valuation was not recorded at fair value. By the end of the third quarter of 2011, Swisher fell short of meeting its adjusted EBITDA target and then adjusted the earnout liability downward by $500,000, thus increasing earnings for the quarter (representing 26 percent of Swisher's contemporaneous net income in the third quarter of 2011). Swisher continued to reduce the earnout liability in the fourth quarter of 2011.

the initially estimated earnout liability, with the other half being reversed as fair value gains over the earnout period. Since small acquirers often employ earnouts, these gains are economically sizable. For instance, in transactions with overstated earnout liabilities, the total earnout gains comprise 56 percent of the combined business's absolute contemporaneous net income during the earnout period. In addition, in the year of the reversals, earnout fair value gains enable 36 percent of the sample firms to switch from a negative to marginally positive net income. These observations echo professionals' concerns over fair value accounting for earnouts (Bhatt 2005; Pitchford 2005; Asbra and Miles 2009).

We next examine the determinants of earnout overstatement, considering managerial incentives, market monitoring, and valuation uncertainty. Consistent with the role of incentives, our findings reveal that managers tend to overstate earnout liabilities when they face pressure to justify their investment decisions, for example, when the market views an announced deal less favorably (Bens, Goodman, and Neamtiu 2012). Acquirers also overstate earnout liabilities and strategically *time* reversals when they exhibit poorer *ex ante* profitability, when they fall short of analysts' forecasts, or when the pre-reversal net income is negative or lower than the previous year (Cohen, Darrough, Huang, and Zach 2011; Christensen, Jones, and Kenchington 2018; Hanley, Jagolinzer, and Nikolova 2018; Cain, Kolev, and McVay 2020). Consistent with the role of market monitoring, we find that the presence of high-quality auditing (i.e., Big 4 auditors) and debt-financed acquisitions helps curtail acquirers' reporting discretion (Dietrich et al. 2000; Bharadwaj and Shivdasani 2003; Kravet 2014; Allee and Wangerin 2018). However, we fail to find evidence supporting the valuation uncertainty explanation.

Third, we examine the disclosure practices of earnout-related information under IFRS 3 (2008), revealing considerable opacity.[4] This is consistent with the literature suggesting that managers often conceal transitory gains or unfavorable performance (Curtis, McVay, and Whipple 2014; Asay, Libby, and Rennekamp 2018). Additionally, instead of making the "free" gain salient in income statements (Riedl and Srinivasan 2010; Clor-Proell, Proell, and Warfield 2014), acquirers often disguise it in "Other Income" or even offset it against "Selling, General and Administrative Expenses." Given the typically nonrecurring nature of earnout gains, this obfuscation impedes investors from fully discerning the rationale behind earnout liability reversals and accurately valuing them (Magnan et al. 2015; Lin et al. 2022). Supporting this notion, we show that investors can discount, although not completely, the inflated component of goodwill resulting from overstated earnout liabilities.

Relatedly, we find no mechanical relation between fair value gains from earnout reversals and goodwill impairment losses in the post-acquisition period. This is somewhat expected, since goodwill impairment in practice is widely perceived as "too little, too late" (Metcalf and Fujita 2020; Chung and Hribar 2021; Hodder and Sheneman 2022). Notably, managers who attempt to boost post-acquisition earnings via earnout accounting often succeed in extending their tenure (Bens et al. 2012; Doukas and Zhang 2020). In sum, we show that acquirers are incentivized and able to derive "free" earnout gains under IFRS 3 (2008).

In our final analysis, we draw on a sample of 6,414 acquisitions made by Australian firms between 2001 and 2017 to investigate the impact of IFRS 3 (2008) on the use of earnouts. Using a difference-in-differences design with private acquirers as a control group (i.e., Iselin and Nicoletti 2017), we find that IFRS 3 (2008) significantly increases both the frequency and magnitude of earnouts in public acquirers' transactions.

Overall, our study yields important policy implications and contributes to the literature in several ways. First, we provide feasible solutions for the current limitations of earnout accounting. Our recommendations include (1) reinstating the "reliably measurable" filter for earnout liability recognition[5] and (2) adjusting the value of acquisition-specific goodwill or related intangible assets by the change in the fair value of earnout liability, or considering the reversal of earnout liability as a trigger for a goodwill impairment test. In addition, our findings underscore the necessity for improved disclosure and presentation of earnout gains and losses, consistent with a recent call by the Financial Reporting Council (2022) regarding contingent consideration.[6] Our study also serves as a pilot test for the IASB's recent decision to require additional disclosure of acquirers' post-acquisition performance (International Accounting Standards Board (IASB) 2022).[7] Given that IFRS 3 (2008) and SFAS 141 (R) marked the first convergence project between the IASB and FASB, our findings carry implications beyond the specific research context.

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[4] This observation is not unique to our sample. Battauz, Gatti, Prencipe, and Viarengo (2021) observe that, in the early years of IFRS 3 (2008) or SFAS 141 (R) adoption, 82 percent of European firms and 48 percent of U.S. firms did not specify the valuation method/process for earnout fair values. Similarly, Lin, Panaretou, Pawlina, and Shakespeare (2022) observe a lack of information provided by U.S. banks about how they estimate debt valuation adjustments.

[5] For instance, IFRS 3 (2008) retains the filter of "reliably measurable" for recognition of contingent liabilities in the acquiree at the acquisition date.

[6] In its thematic review of business combinations, the Financial Reporting Council (FRC) expects IFRS-adopting companies to enhance disclosure related to contingent consideration, in which the FRC finds that "the explanations of the earnout arrangements were often boilerplate" and the disclosure quality of earnout estimates makes it difficult for investors to "understand the potential variability in the payable amounts."

[7] In the IASB and joint IASB-FASB Update in September 2022, the IASB announced that it tentatively decided to propose adding to IFRS 3 a requirement for an entity to disclose information of post-acquisition performance for "strategically important" business combinations. It includes the metrics and targets management will use to monitor whether management's objectives for a business combination are being met, as well as the extent to which these objectives are met in subsequent periods.

We also contribute to the discussion on accounting standard setters' convergence efforts. Our work stands apart from several papers that relate to revised earnout accounting under SFAS 141 (R) (Quinn 2012; Cadman et al. 2014; Gunn 2017; Allee and Wangerin 2018; Bates, Neyland, and Wang 2018; Barbopoulos and Danbolt 2021). These latter studies report mixed findings regarding whether SFAS 141 (R) affects the use of earnouts in the United States. Whereas Cadman et al. (2014) suggest that the revised earnout accounting under SFAS 141 (R) improves the information environment, we highlight the role of institutional settings in exacerbating the limitations of certain accounting standards. For example, Australian public firms operate in a less rich information environment than do their U.S. counterparts, with only a third of listed firms having analyst following (Brown, Feigin, Ferguson 2014; Chatalova, How, and Verhoeven 2016; Carvajal, Coulton, and Jackson 2017). Lower litigation risks and no requirements for quarterly financial reports in Australia further render analysts and market participants less cognizant of potential managerial opportunism (Tsao, Lu, and Keung 2018; Kajüter, Lessenich, Nienhaus, and van Gemmern 2022). Our findings thus raise questions about potential variances in the outcomes of convergence projects between the IASB and FASB, as the real effects of these convergence efforts might be swayed by the distinct institutional contexts in which they are applied.

We further contribute to the ongoing debate about the usefulness of the fair value method for illiquid balance sheet items, particularly Level 3 financial liabilities. This area lacks empirical clarity due to the low occurrence of Level 3 financial liabilities, even within financial institutions (Christensen and Nikolaev 2013; McDonough, Panaretou, and Shakespeare 2020). Leveraging the empirical advantage of earnout accounting, we assess managers' initial estimates to scrutinize their application of fair value accounting. Our findings raise concerns about the practices surrounding Level 3 measurements, where the lack of explicit disclosure of the measurement process and valuation inputs hampers investors' ability to accurately value these items. We thus offer insights around the usefulness of the fair value method for highly uncertain items (Magnan et al. 2015).

Last, our findings shed light on factors influencing earnout contracting. Studies have mainly focused on the economic determinants of earnouts, such as reducing valuation risk, resolving moral hazards, or serving as a financing source in acquisitions (e.g., Datar et al. 2001; Cain et al. 2011; Barbopoulos and Sudarsanam 2012; Bates et al. 2018; Jansen 2020). We distinguish our work by highlighting the accounting benefit of using earnouts. We identify an opportunity for acquirers to obtain a "free" profit boost through earnout accounting (e.g., AAER No. 3375), which leads to an increased usage of earnouts after IFRS 3 (2008). This comports with a recent study by Kepler, Naiker, and Stewart (2023), who suggest that managers' discretion in assessing the value of earnouts enables deals with earnouts to be exempted from premerger antitrust review. Overall, we add to the literature exploring how accounting shapes managers' real economic decisions (Aboody, Kasznik, and Williams 2000; Bonetti, Duro, and Ormazabal 2020; Bartov, Cheng, and Wu 2021).

Section II discusses the literature and the accounting for earnouts. Section III describes our data and sample. Section IV describes summary statistics of earnout fair values. Section V examines managers' incentives to overstate earnout liabilities and the quality of earnout-related disclosure. Section VI reports additional analyses, and Section VII concludes.

II. ACCOUNTING FOR EARNOUTS

IFRS 3 (2008) fundamentally changes the accounting treatment of earnouts. Prior to IFRS 3 (2008), earnouts were recognized only if they met both the "probable" and "reliably measurable" criteria and any subsequent value changes were made against goodwill. In practice, however, acquirers rarely recognized earnouts at the acquisition date, leaving investors with little information about the actual earnout performance after deal announcements.[8] To provide a better picture of acquirers' obligations in earnout transactions, IFRS 3 (2008) requires acquirers to recognize and present earnouts as a liability or equity at fair value at the acquisition date.[9] At subsequent reporting dates, liability-classified earnouts are remeasured with fair value changes recognized as operating gains or losses. Equity-classified earnouts are not remeasured, and their subsequent settlement is accounted for within equity.

Proponents of the revised earnout accounting argue that it improves transparency by reflecting the economic consideration exchanged at the transaction date. "Although the amount of the future payments the acquirer will make is conditional on future events, the obligation to make them if the specified future events occur is unconditional" (IFRS3.

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[8] For example, in the sample of 138 earnout transactions completed by Australian public acquirers during the pre-IFRS 3 (2008) period between 2001 and 2009, we find that only three deals had earnout liabilities recognized at the acquisition date, and 18 had contingent liabilities disclosed in the notes. The majority had minimal or no narrative disclosures.

[9] Under IFRS 3 (2008), earnout payments in the form of cash payments, a variable number of shares, or both are recorded as liabilities. An earnout is classified as equity at fair value if the contingent payment is settled with a fixed number of shares. In fact, most earnouts are classified as liabilities under the new accounting rule. For example, Cadman et al. (2014) show that only 3 percent of earnouts are classified as equity in the United States. The proportion of equity-classified earnouts in our sample is less than 5 percent.

BC346). Therefore, delaying or ignoring the recognition of contingent consideration may cause acquirers' financial reporting to be incomplete and less useful for decision-making (IFRS3.BC346-347).

However, the new earnout accounting was met with substantial resistance from accounting professionals and practitioners (IASB 2008; Asbra and Miles 2009; PwC 2010, 2012). One particular concern is the reliability with which the fair value of performance-based contingent consideration is measured. The new accounting rule "is contrary to the frequently underlying cause for contingent consideration, which is that the fair value is not reliably determinable" (Bhatt 2005). The removal of the "probable" and "reliably measurable" recognition criteria can lead to opaque earnout liabilities, which are "highly subjective and unrepresentative of the most likely outflow of benefits ultimately required to settle the obligation" (Pitchford 2005).

Another concern is the distortion effect of earnout remeasurements on acquirers' post-acquisition earnings (Nissim 2019). Under IFRS 3 (2008), a downward (an upward) adjustment in earnout liabilities is recorded as a gain (loss). This creates an opportunity for acquirers to overstate initial earnout liabilities "to avoid negative effects in the post-acquisition profit or loss" (IASB 2015) and obtain a "free" profit through subsequent reversals (Wu, Thibodeau, and Couch 2016; Chung, Lee, Lobo, and Yong 2021). See Appendix B2 for an example. In addition, financial statement users often interpret gains positively and losses negatively (Gaynor, McDaniel, and Yohn 2011; Lachmann, Stefani, and Wöhrmann 2015), which further incentivizes acquirers to overstate initial earnout liabilities.

Our study is distinct from others that examine the implications of the revised earnout accounting under SFAS 141 (R) and report mixed findings in the U.S. context. Notable studies by Cadman et al. (2014) and Allee and Wangerin (2018) offer different perspectives. Using a sample of completed acquisitions in 2007–2010, Allee and Wangerin (2018) argue that the new earnout accounting could deter earnout usage, due to the increased monitoring and verification costs post-M&A, although acquirers with high-quality auditors are more inclined to use accounting-based earnouts after SFAS 141 (R). Using a similar sample period, Cadman et al. (2014) find no impact of the accounting change on earnout usage. In contrast, other studies with longer sample periods report an uptick in either the use or size of earnouts after SFAS 141 (R) (Gunn 2017; Bates et al. 2018; Jansen 2020; Barbopoulos and Danbolt 2021).

The U.S. studies also generate divergent conclusions regarding the impact of SFAS 141 (R) on the information environment. Cadman et al. (2014) suggest that initial earnout fair value estimates correspond with the economic determinants of earnout usage and the mandated disclosure of subsequent adjustments improves the information environment. However, Quinn (2012) finds no evidence of a relationship between earnout fair value estimates and adverse selection issues, a key determinant of earnout use. Gunn (2017), on the other hand, suggests that earnout fair value adjustments are made to smooth acquirers' quarterly earnings.[10]

These mixed U.S. findings can be attributable to the simultaneous change in SFAS 141 (R) regarding the recognition of in-process R&D, which may confound the empirical findings about earnout accounting. This is particularly relevant in the United States, given the prevalence of R&D-intensive sectors, where earnouts are commonly used. For example, Cadman et al. (2014) focus on the revised earnout accounting introduced by SFAS 141 (R), whereas Chung et al. (2019) emphasize the capitalization of in-process R&D under the same standard. Both studies examine the effect of SFAS 141 (R) on the U.S. information environment but arrive at different conclusions. Although these discrepancies can be attributed to differences in sample selection, they also underscore the presence of confounding factors surrounding SFAS 141 (R), which inhibit clear empirical inferences.

III. DATA AND SAMPLE

We select samples based on the focus of the tests and related data requirements. We first gather a sample of completed acquisitions from the Refinitiv SDC Platinum database. The initial sample includes acquisitions announced by Australian public and private firms between January 1, 2001 and December 31, 2017 with a transaction value of at least $1 million. We also restrict the sample to transactions acquiring at least 50 percent of the target equity. We then identify earnout deals if the "consideration offered" item in SDC is labeled "earnout." This yields a sample of 7,104 completed acquisitions by 4,390 public acquirers and 2,714 private acquirers with 615 earnouts. Among the 7,104 acquisitions, 6,414 (690) are acquisitions of private (public) targets. Since the overwhelming majority of earnouts (611 of 615) are used in acquisitions of private targets (i.e., Barbopoulos and Sudarsanam 2012), we focus on this specific subsample.

Our main tests explore fair value measurements and disclosures of earnouts by public acquirers. To this end, we use a sample of 311 earnouts completed by Australian public firms after IFRS 3 (2008), which became effective on July 1, 2009 in Australia. Fair value estimates and subsequent value adjustments of earnouts are hand-collected from acquirers'

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[10] In addition, incentives of managers in the U.S. to utilize earnout gains are likely heightened due to its quarterly reporting requirements, as compared to the semiannual reporting required in the current Australian context.

financial reports. We also collect earnout contracting information (e.g., earnout performance hurdles or project milestones) from acquirers' acquisition announcements available on the Morningstar DatAnalysis Premium database.

For our empirical analysis, we obtain other data from various sources. Accounting information for Australian public acquirers is obtained from the Aspect Financial database and stock price data from the Securities Industry Research Centre of Asia-Pacific (SIRCA). Auditors and corporate governance variables are from Thomson Reuters' Connect 4. Earnings forecasts and analyst following variables are sourced from I/B/E/S. Note that our analysis covers post-acquisition financial data for each transaction over its earnout period. For example, if an acquirer announces a three-year earnout transaction in 2017, we track the subsequent disclosure of earnout liability estimates or their settlements as well as acquisition-specific goodwill impairment (if available), until the earnout liability is settled or until the three-year earnout period concludes.

IV. SUMMARY STATISTICS OF EARNOUT FAIR VALUES

To provide more in-depth descriptive information of earnout fair value practices under IFRS 3 (2008) (Gow, Larcker, and Reiss 2016), we hand-collect fair value estimates and subsequent value adjustments from the financial reports of Australian public acquirers. The sample selection process is reported in Table 1, Panel A. We start with a total of 311 earnouts completed under IFRS 3 (2008) and then exclude 23 reverse acquisitions and 32 asset acquisitions due to their distinct accounting treatment, as well as 53 earnout deals without deal-specific fair value disclosure.[11] In addition, we exclude six acquisitions with earnouts conditional on continued employment of the target management, because such contingent consideration is expensed as an employment cost (e.g., acquisitions of legal service firms). We further exclude 17 equity-classified earnouts and 20 observations in which either the acquired entity is divested of or the acquiring firm is delisted before the end of the earnout period. The final sample consists of 160 liability-classified earnouts with subsequent fair value information available.

Table 1, Panel B summarizes the initial fair value estimates of earnout liabilities and subsequent settlements. On average, the mean (median) estimate of earnout liability fair value at the acquisition date (*Earnout initial FV/Earnout max*) is 79 percent (99 percent) of the maximum earnout amount. This indicates a tendency among acquirers to value the initial earnout liability closer to the maximum "available" amount. However, over the earnout period, only 53 percent of the maximum earnout amount is actually paid on average, with a median payment ratio of 42 percent. The significant deviation of the initial estimate from the "true" value of earnout liabilities is striking, suggesting potential measurement errors or managerial opportunism in earnout fair value measurement.

TABLE 1

Summary Statistics of Earnout Fair Values

Panel A: Earnout Sample with Fair Value Disclosures under IFRS 3 (2008)

Sample	n
Earnouts after IFRS 3 (2008)	311
Less: Accounted for as reverse acquisitions	23
Less: Accounted for as asset acquisitions	32
Less: No fair value or deal-specific disclosure of earnouts	53
Less: Expensed earnouts (e.g., employment cost)	6
Earnouts with initial fair value estimates available	197
Less: Equity-classified earnouts	17
Less: Acquired target is disposed of or acquirer is delisted during the earnout period	20
Liability-classified earnouts with subsequent disclosure available	160

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[11] Among the 53 earnout deals excluded from the sample, 37 have no disclosure of earnout fair values. For the remaining 16, the accounting information provided is not deal-specific and is presented in an aggregated format. For example, Flight Centre Travel Group (Australian Securities Exchange (ASX) ticker: FLT) made six acquisitions with earnouts in 2016 and aggregated all deal information in its financial reports. Although these observations were excluded from empirical analysis, we note that aggregated disclosure can facilitate the concealing of earnout gains.

TABLE 1 (continued)

Panel B: Summary Statistics of Earnout Fair Values and Adjustments

Earnout Liability Sample	n	Mean	p10	Median	p90	Std. Dev.
Earnout initial FV/Earnout max	160	0.79	0.35	0.99	1.00	0.29
Earnout payment/Earnout max	160	0.53	0.00	0.42	1.03	0.64
Overstate_dummy (0/1)	160	0.68	0.00	1.00	1.00	0.49
Overstatement	160	0.47	−0.03	0.58	1.00	0.64
*Overstatement	Overstate_dummy* = 1	108	0.86	0.39	1.00	1.00	0.29

Panel C: Impact of Earnout Fair Value Gain/Loss on Reported Net Income during the Earnout Period

	(1) Overstate n = 108		(2) Not Overstate n = 52		(3) t-test	(4) Wilcoxon Rank-Sum Test
	Mean	Median	Mean	Median	t-stat	z-stat
Total reported net income ($ million)	61.58	−0.40	52.63	28.48	0.17	−3.80***
Earnout gains (losses)/Absolute reported net income	0.56	0.04	(0.10)	0.00	2.08**	2.05**
ΔEPS (in cents) in the year when fair value gains (losses) are recorded	3.14	1.70	(−0.97)	0.00	4.22***	3.67***
Goodwill impairment expense/Absolute reported net income	0.10	0.00	0.00	0.00	3.04***	2.30**

Panel D: Distribution of the Impact of Earnout Fair Value Gains on Post-Acquisition Net Income

		Fair Value Gains from Reversals of Earnout Liabilities	
Range	Frequency Number of Firm-Years with Earnout Gains	$ in Million (Mean)	% of Absolute Reported Net Income (Mean)
(1) Net income is negative pre- and post-earnout gains	28	6.81	44.7
(2) Income switches from negative to positive owing to earnout gains	50	4.46	170.3
(3) Net income is positive pre- and post-earnout gains	61	8.22	11.9

*, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

This table presents a summary of earnout fair value estimates reported by Australian public acquirers for acquisitions completed under IFRS 3 (2008) from July 1, 2009 to December 31, 2017. Panel A lists the sampling procedure for liability-classified earnouts under IFRS 3 (2008). Panel B reports summary statistics of initial fair value estimates of earnout liabilities and subsequent payments/adjustments over the earnout period. Panel C reports mean and median total operating profits and size of fair value gains/losses relative to contemporaneous operating profits of the combined business over the earnout period, segmented by whether initial earnout liabilities are overstated. Columns (3) and (4) report t-statistics and z-statistics from a two-sample t-statistic of means and a Wilcoxon rank-sum test of medians, respectively. Panel D focuses on earnout gains only and reports a detailed breakdown of the impact of fair value gains on acquirers' reported net income post-M&A.

To capture the frequency and magnitude of earnings boosts created by earnout accounting, we construct two variables: (1) *Overstate_dummy*, indicating whether the initial earnout liability estimate is higher than the actual payment, where the latter proxies for the "true" fair value of earnout liabilities (Gunn 2017; Hanley et al. 2018), and (2) *Overstatement*, a continuous variable that measures the difference between the initial estimate of earnout liability and actual earnout payment, scaled by the initial estimate.[12] Overall, 68 percent of initial earnout liabilities in our

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[12] We acknowledge that the *Overstatement* variable, typically estimated based on discounted cash flow models, is affected by the numerator (expected payment) and the denominator (discount rate). The choice of a discount rate may likewise be associated with managerial opportunism (Dechow et al. 2010). However, we do not consider discount rates for two reasons. First, earnout arrangements in our sample generally have relatively short-to-moderate payout horizons of one to three years. The effect of unwinding discount rates is thus marginal compared to changes in expected payments. Second, the disclosure of discount rates used in the valuation of earnouts is limited and often subject to noise, making it challenging to analyze their effect systematically.

sample are overstated, with a mean (median) overstatement of 47 percent (58 percent) of the initial estimate. In stark contrast, only three earnout transactions (untabulated) understate earnout liabilities (where *Overstatement* is negative), with an average understatement of 6 percent of the initial estimate.

We also find the earnout gains to be economically significant. As reported in Table 1, Panel C, among deals with overstated earnout liabilities, the fair value gains from earnout reversals are on average 56 percent as large as the contemporaneous absolute net income in acquirers over the earnout period. These gains contribute to an average increase of 3.14 cents in acquirers' earnings per share (EPS), with a median increase of 1.70 cents, in the year when reversals are made. This compares to the sample firms' mean (median) EPS of 12.03 (1.75) cents, suggesting a notable impact of these "free" gains on acquirers' reported earnings post-M&A.

We further present in Table 1, Panel D a granular distribution of earnout fair value gains, with a focus on whether acquirers are profit- or loss-making *before* earnout reversals (Dechow et al. 2010). Among the 139 firm-years with fair value gains recorded,[13] 28 observations (20.1 percent) have a negative net income pre- and post-earnout gains. About 50 observations (36.0 percent) switch from a negative to marginally positive net income, with an average earnout gain of $4.46 million, which represents 170.3 percent of acquirers' absolute value of reported net income. This finding is consistent with loss-making firms' incentives to appear financially healthy (Moehrle 2002; Hanley et al. 2018). Taken together, the systematic overstatement of earnout liabilities and the significant earnout gains suggest the potential opportunistic application of earnout accounting under IFRS 3 (2008).

V. FAIR VALUE MEASUREMENTS AND DISCLOSURES OF EARNOUT LIABILITIES

Determinants of Earnout Liability Overstatement

Empirical Predictions

Motivated by prior studies on managers' opportunistic use of fair value accounting (i.e., Magnan et al. 2015; Black et al. 2022), we propose several factors that potentially contribute to earnout overstatement: valuation uncertainty, managers' pressure/ incentives, and market monitoring. First, valuation uncertainty plausibly explains measurement bias or errors in earnout fair value estimates. Earnouts are often used to facilitate acquisitions where the intrinsic value of target entities is difficult to measure (e.g., targets are privately held, in a foreign jurisdiction, or intensively involved in R&D). The inherent uncertainty and information asymmetry make it difficult for acquirers to accurately estimate future performance-based payouts at the acquisition date.

We next consider several incentives predicted to induce managers toward seeking an earnout gain. The literature documents that managers in acquirers are often incentivized to report a higher post-acquisition profit (Chen, Thomas, and Zhang 2016), particularly when the market has a negative view of an announced deal (Bens et al. 2012; Doukas and Zhang 2020). Studies further suggest that firms have incentives for opportunistic reporting when facing pressure to meet earnings targets or avoid reporting losses or decreases in earnings (Moehrle 2002; Cohen et al. 2011), and the latter two predominate in Australia (Carvajal et al. 2017). Hence, we predict that managers tend to overstate earnout liabilities when they face pressure to justify their investment decisions or to demonstrate improved performance.

In contrast, we predict that market monitoring will curtail managerial opportunism. For instance, audits provide an external check on the accuracy of the reported values of recognized earnout liabilities, which were not present in the pre-IFRS 3 (2008) period (Choudhary 2011; Müller, Riedl, and Sellhorn 2015; Allee and Wangerin 2018). Relatedly, the increased accounting disclosure of earnouts allows for closer scrutiny by analysts (Bischof, Daske, and Sextroh 2014). Further, debtholders in debt-financed acquisitions often actively monitor the post-acquisition performance of acquiring firms (Bharadwaj and Shivdasani 2003; Kravet 2014). These monitoring mechanisms are expected to attenuate managerial opportunism.[14]

Empirical Results

To test our predictions, we estimate the following model:

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[13] The number of firm-years (n = 139) is larger than the number of overstated earnouts (n = 108) because some overstated earnout liabilities are gradually reversed during the earnout period (see an example in Appendix B2), whereas most are reversed in one year.

[14] The other potential contributor to managerial opportunism in Australia is low litigation risk (Ramsay and Saunders 2006). Managers may perceive less scrutiny and a lower likelihood of lawsuits. Ashraf, Donelson, McInnis, and Mergenthaler (2022) also highlight the relatively low litigation risk associated with fair value accounting applications, even in the United States, due to the subjective nature of fair values. Therefore, the benefits of opportunism may indeed outweigh the potential costs. However, we cannot empirically test the impact of litigation risk on managerial opportunism in earnout accounting, as there were no accounting enforcement cases related to earnout accounting (i.e., AAER No. 3775) in Australia during our sample period.

$$Overstatement = \alpha + \beta\, Incentives + \delta\, Monitoring + \lambda\, Valuation\ uncertainty + \gamma\, Controls$$
$$+ Industy\ and\ year\ fixed\ effects + \mu, \qquad\qquad (1)$$

where *Overstatement* is a continuous variable measuring the difference between the initial fair value estimate of earnout liability and actual earnout payment, scaled by the initial estimate (Gunn 2017; Hanley et al. 2018). As per our above discussion, the first set of explanatory variables proxies for managers' investment- and performance-related pressure and incentives. They include *Acq CAR*, acquirers' three-day market-adjusted cumulative abnormal return centered on the acquisition announcement date (Bens et al. 2012); *Acq ROA*, representing acquirers' operating performance in the year prior to acquisition completion (Christensen et al. 2018); and *Meet or beat*, an indicator variable to capture whether an acquirer meets or beats analyst earnings forecast in the year prior to the acquisition completion (Moehrle 2002). We expect negative coefficients on the three proxies, indicating that higher pressure and incentives to demonstrate improved performance are associated with greater earnout overstatement. Additionally, we include *CEO bonus/Total pay* because CEOs with earnings-based bonuses tend to exercise discretion on purchase price allocations to increase post-acquisition earnings (Shalev, Zhang, and Zhang 2013).

To assess monitoring effectiveness, we incorporate three indicator variables: *Big4*, capturing whether the acquiring firm's auditor is a Big 4 firm (Allee and Wangerin 2018); *Analyst following*, indicating whether an acquirer has at least one following analyst (Bischof et al. 2014); and *Debt-financing*, capturing whether the financing source for the deal includes borrowing or debt (Bharadwaj and Shivdasani 2003; Kravet 2014). We expect negative coefficients on the three monitoring variables, as stronger monitoring should mitigate managerial opportunism.

The third set of variables proxies for the inherent uncertainty in earnout transactions. We include indicator variables for cross-border and cross-industry deals because they typically entail higher information asymmetry (Allee and Wangerin 2018). Additionally, we use industry-level variables, *Tar industry volatility* and *Tar industry Q*, to proxy for target characteristics (Cain et al. 2011). We further include several control variables commonly used in the acquisition literature, for example, the acquiring firm's size (*Ln(Acq total assets)*), leverage (*Acq debt/Assets*), operating cash flows (*Acq CFO*), and the transaction value (*Ln(Deal value)*). Appendix A provides variable definitions, and Table 2 presents summary statistics.

On average, earnouts constitute 36 percent of the transaction value, with the 10th and 90th percentile at 10 percent and 67 percent, respectively. Earnouts are used by acquirers with a mean (median) market capitalization of $512 million ($115 million), compared to an average market capitalization of $849 million for all listed firms on ASX. This is consistent with the literature indicating that earnouts are often used by small- and mid-cap acquirers (Bates et al. 2018). In addition, acquirers in our sample report an average ROA of –0.15 in the year prior to the acquisition completion, and 54 percent of the sample have at least one following analyst. Around 57 percent of acquirers have a Big 4 auditor in the year of acquisition. This proportion is lower compared to acquirers' employment of Big 4 auditors in the U.S. context, where it is typically around 75 percent (Allee and Wangerin 2018). These characteristics are generally consistent with prior Australian studies (Wang and Welker 2011; Carvajal et al. 2017; Feng, Francis, Shan, and Taylor 2023).

Table 3, column (1) reports regression results of Equation (1) using the full sample of liability-classified earnouts. Consistent with our predictions, we show that acquirers with lower acquisition announcement returns and lower *ex ante* ROAs tend to overstate earnout liabilities to a larger extent. The effect is economically significant, with a one-standard-deviation decrease in *Acq ROA* associated with a 35 percent increase in earnout overstatement. As expected, high-quality audits and debt financing help prevent aggressive earnout overstatement (Dietrich et al. 2000; Kravet 2014). However, we observe limited influence of analysts on the magnitude of overstatement.

In Table 3, column (2), we confine the test sample to acquirers with at least one following analyst, which reduces the sample size to 89 observations. We introduce *Meet or beat* as an alternative proxy for managers' incentive to seek a profit boost and replace *Analyst following* with *Ln(Number of analysts)* as a measure of analyst monitoring. Results in column (2) show that the coefficients on *Acq CAR* and *Acq ROA* remain negative and statistically and economically significant. Acquirers falling short of earnings forecasts also exhibit a significant overstatement. These findings are consistent with the view that managers facing investment- and performance-related pressure seek to boost post-acquisition earnings through earnout accounting. Nevertheless, the coefficient on *Ln(Number of analysts)* remains insignificant.

We next investigate whether managers strategically *time* earnout reversals during specific periods, e.g., when earnings would otherwise be low. To address this, we modify Equation (1) using *Earnout gains/Total assets* as the dependent variable. It is calculated as the amount of earnout gains/losses (if any) recorded in acquirers' net income during each year of the earnout period, scaled by the beginning balance of total assets. If no earnout gains/losses are recognized in a particular year during the earnout period, *Earnout gains/Total assets* is set to 0. We introduce two additional indicator

TABLE 2

Summary Statistics of Deal- and Firm-Level Characteristics

	n	Mean	p10	Median	p90	Std. Dev.
Deal value ($m)	160	33.11	2.73	13.56	78.00	62.12
Earnout size/Deal value	160	0.36	0.10	0.32	0.67	0.24
Acq CAR	160	0.06	−0.02	0.02	0.17	0.17
Cross border (0/1)	160	0.29	0.00	0.00	1.00	0.46
Cross industry (0/1)	160	0.30	0.00	0.00	1.00	0.46
Debt financing (0/1)	160	0.16	0.00	0.00	1.00	0.29
Acq total assets ($m)	160	321.48	6.83	108.49	880.77	677.20
Acq market cap ($m)	160	512.33	9.78	114.62	907.64	1432.53
Acq CFO	160	−1.47	−25.56	7.36	20.74	18.49
Acq ROA	160	−0.15	−0.35	0.06	0.16	1.15
Acq debt/Assets	160	0.59	0.13	0.43	0.68	1.04
Acq market-to-book	160	3.78	0.51	1.36	4.52	10.89
Big4 (0/1)	160	0.57	0.00	1.00	1.00	0.50
CEO bonus/Total pay	160	0.10	0.00	0.00	0.35	0.15
Tar industry volatility	160	0.31	0.21	0.29	0.40	0.10
Tar industry Q	160	1.50	1.05	1.30	2.42	0.52
Analyst following (0/1)	160	0.54	0.00	1.00	1.00	0.50
Number of analysts	160	2.52	0.00	1.00	7.17	3.65
Narrative Score	160	1.89	1.00	2.00	4.00	1.64
Meet or beat (0/1)	89	0.48	0.00	0.00	1.00	0.50
Earnout gains/Total assets	354	0.11	−0.00	0.05	0.14	0.48
ΔDecline (0/1)	354	0.72	0.00	1.00	1.00	0.45
Pre-reversal loss (0/1)	354	0.48	0.00	0.00	1.00	0.29

This table summarizes deal- and firm-level characteristics of the sample of liability-classified earnouts.
Variable definitions are detailed in Appendix A.

variables to proxy for acquiring firms' pre-reversal financial performance, including Δ*Decline*, indicating whether an acquirer's actual prior-year EPS exceeds the pre-reversal EPS in the current year, and *Pre-reversal loss*, capturing whether an acquirer experiences a net loss before accounting for earnout fair value gains. Table 3, column (3) reports regression results using a sample of 354 firm-year observations during the earnout period. As predicted, earnout liabilities are reversed in years when firms incur pre-reversal net losses or experience a decline in pre-reversal earnings compared to the previous year (Carvajal et al. 2017).[15]

Importantly, we find only weak evidence supporting the valuation uncertainty explanation. Except for cross-border deals, which lead to a 23.6 percent larger overstatement than domestic ones (Table 3, column (1)), other proxies for valuation uncertainty (e.g., cross industry, target return volatility, and growth opportunities) are not associated with earnout overstatement. Overall, the results in Table 3 imply that acquirers' opportunism primarily drives the systematic overstatement of earnout liabilities.

Narrative Disclosures of Earnout-Related Information

We next consider the quality of disclosures related to earnout liabilities. This investigation is motivated by research suggesting that managers often obfuscate the disclosure of transitory gains or unfavorable performance (Curtis et al. 2014; Asay et al. 2018), whereas detailed narrative disclosures related to fair value measurements can reduce information

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[15] The coefficient on *CEO bonus/Total pay* becomes statistically significant in Table 3, column (3). This suggests managers who receive more of their pay in the form of bonuses are likely to recognize larger earnout gains (Shalev et al. 2013). However, we do not interpret this as strong evidence, given the insignificant coefficients in columns (1) and (2). Additionally, due to data limitations in the Australian context, we cannot identify whether CEO bonuses are tied to accounting or nonaccounting performance metrics. This may introduce noise when interpreting the coefficient on *CEO bonus/Total pay* in Table 3.

TABLE 3

Determinants of Earnout Overstatement

		Predicted Sign	(1) Overstatement	(2) Overstatement	(3) Earnout gains/ Total assets
Incentives	Acq CAR	–	−0.130**	−0.512**	−0.166**
			(−2.43)	(−2.30)	(−2.41)
	Acq ROA	–	−0.144***	−0.679***	−0.106**
			(−3.54)	(−3.24)	(−2.35)
	CEO bonus/Total pay	+	0.223	0.461	0.170***
			(0.67)	(0.91)	(4.60)
	Meet or beat	–		−0.331**	
				(−2.48)	
	ΔDecline	+			0.139**
					(2.39)
	Pre-reversal loss	+			0.124**
					(2.15)
Monitoring	Big4	–	−0.332**	−0.272**	−0.202***
			(−2.08)	(−2.06)	(−2.86)
	Analyst following	–	−0.105		−0.066
			(−0.76)		(−1.09)
	Ln(Number of analysts)	–		−0.056	
				(−0.53)	
	Debt-financing	–	−0.145***	−0.282***	−0.103***
			(−3.09)	(−2.79)	(−3.19)
Valuation uncertainty	Cross border	+	0.236**	0.157*	0.138*
			(2.62)	(1.78)	(1.85)
	Cross industry	+	−0.102	−0.009	−0.134
			(−0.55)	(−0.08)	(−1.53)
	Tar industry volatility	+	0.442	0.661	0.050
			(0.78)	(1.43)	(0.43)
	Tar industry Q	+	0.053	−0.035	0.131***
			(0.64)	(−0.25)	(2.82)
Controls	Ln(Acq total assets)	+/–	0.119**	0.181***	−0.084***
			(2.35)	(3.01)	(−4.13)
	Ln(Deal value)	–	−0.179***	−0.167**	0.041*
			(−3.76)	(−2.46)	(1.76)
	Acq debt/Assets	+/–	0.086*	0.139*	−0.035
			(1.87)	(1.93)	(−1.22)
	Acq CFO	+/–	0.004***	0.025***	0.001***
			(3.11)	(3.44)	(3.32)
Fixed effects			Industry, Year	Industry, Year	Industry, Year
Adjusted R^2			29.4%	58.1%	72.2%
Number of earnout deals/firm-year			160	89	354

*, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
This table reports regression results for the determinants of earnout overstatements. The dependent variable *Overstatement* in columns (1) and (2) is measured as the difference between the initial fair value estimate of earnout liabilities and actual earnout payments, scaled by the initial estimate. The full sample of liability-classified earnouts is used in column (1), and a subsample of acquirers having at least one following analyst is used in column (2). The dependent variable *Earnout gains/Total assets* in column (3) is calculated as the amount of earnout gains/losses (if any) recorded in a certain year during the earnout period, scaled by the beginning balance of total assets. The number of observations in column (3) is the number of firm-years during the earnout period of the sample earnouts. Target industry (SIC two-digit) and year fixed effects are included. t-statistics are in parentheses and based on standard errors clustered at the acquiring firm level (columns (1) and (2)) and firm and year level (column (3)).
See [Appendix A] for variable definitions.

asymmetry (Fontes, Panaretou, and Peasnell 2018). Specifically, we investigate whether overstatements are associated with opaque disclosures of earnout measurements.

Using hand-collected information from acquirers' annual reports, we observe considerable opacity in the disclosure of earnout liabilities under IFRS 3 (2008). Only one-third of acquirers in our sample provide adequate disclosures about Level 3 valuations of earnout liabilities (Battauz et al. 2021). In addition, they vary a great deal in *where* earnout accounting gains are presented. Few acquirers make the "free" gain salient, such as listing it as a separate line item in the income statement (Riedl and Srinivasan 2010; Clor-Proell et al. 2014). Instead, many either conceal the gain in "Other Income" or deduct it from "Selling, General and Administrative Expenses." Further, narrative disclosures on earnout reversals often lack specificity and appear to be boilerplate. For example, acquirers often simply state that "the earnout liability booked on the acquisition is no longer payable," rather than giving any indication of the acquiree's performance against earnout hurdles.

To ascertain the quality of the narrative disclosures related to earnout liabilities, we examine whether acquiring firms provide information on the following key elements of the Level 3 valuation process: (1) valuation techniques; (2) significant unobservable inputs; and (3) estimated probability of earnout payments, undiscounted amount, and discount rate. We also consider the disclosure of earnout accounting gains in subsequent periods and examine whether an acquirer explicitly (1) presents these gains (either as a line item in the income statement or a Level 3 rollforward table for recurring earnout liabilities) (i.e., Fiechter, Novotny-Farkas, and Renders 2022) and (2) explains them.

Following Fontes et al. (2018), we construct *Narrative Score*, which ranges from 0 to 5, to reflect the sum across the five potential elements discussed above. Table 4, Panel A reports the frequency of *Narrative Score* for our sample. The mean (median) *Narrative Score* is 1.89 (2.00), suggesting an overall opacity in earnout-related disclosures in the sample. We then identify an acquirer as an *Informative discloser* if its *Narrative Score* is above the sample median (two of the above five elements) and an *Opaque discloser* otherwise. Since the relation between disclosure quality and overstatements is contextual, our tests are descriptive in nature.

TABLE 4

Narrative Disclosures of Earnout-Related Information

Panel A: Frequency of *Narrative Score*

Narrative Score	Frequency	Percent
5	12	7.5
4	16	10.0
3	24	15.0
2	32	20.0
1	42	26.3
0	34	21.2
Total	160	100.0

Panel B: Relation between Earnout Overstatement and *Narrative Score*

	(1) *Informative discloser*	(2) *Opaque discloser*	(3) Diff. t-stat
n	52	108	
Overstatement (%)	32.9	60.4	3.44***
Fair value gains (losses)/Absolute reported net income (%)	28.1	42.3	5.12***

*, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

This table presents the quality of acquirers' disclosures related to earnouts under IFRS 2 (2008). Specifically, we examine whether acquiring firms provide information on the following: (1) valuation techniques; (2) significant unobservable inputs; and (3) estimated probability of earnout payments, undiscounted amount, and discount rate. We also consider the disclosure of earnout accounting gains in subsequent periods and examine whether an acquirer explicitly (1) presents these gains (either as a line item in the income statement or a Level 3 rollforward table for recurring earnout liabilities) and (2) explains them. We then construct *Narrative Score*, which ranges from 0 to 5, to reflect the sum across the five potential elements discussed above. Panel A reports the frequency of *Narrative Score* in our sample. In Panel B, an acquirer is identified as an *Informative discloser* if its *Narrative Score* is above the sample median (two of the above five elements) and an *Opaque discloser* otherwise. Column (3) reports t-statistics from a two-sample t-test of differences in means.

We present in Table 4, Panel B a univariate analysis of earnout overstatement stratified by *Informative discloser* and *Opaque discloser*. Overall, 67.5 percent of our sample earnouts are classified as opaque disclosers, with an average overstatement of 60.4 percent. This is significantly higher than the average of informative disclosers at 32.9 percent. Our findings thus highlight the general concern over the disclosure practices of Level 3 estimates.

Earnout Liabilities and Related Goodwill

Having documented managers' attempts to obtain an earnings boost through earnout accounting and obfuscated disclosures, we now investigate whether investors can discern these actions. Specifically, we examine investors' valuation of goodwill in earnout transactions, as overstatement of earnout liabilities inflates goodwill (Nissim 2019). (See the hypothetical example of earnout accounting in Appendix B1.)

We first verify the notion that goodwill is inflated in earnout transactions under IFRS 3 (2008) by hand-collecting data on the allocation of the purchase price to goodwill in earnout deals from acquirers' annual reports over 2001–2017. As shown in Table 5, Panel A, under IFRS 3 (2008), the average *Goodwill/Transaction value* (i.e., the ratio of acquisition-specific goodwill to the purchase price) is 58.8 percent (62.5 percent) in deals with a partial (full) reversal of earnout liabilities. This compares to 43.1 percent in transactions without overstated earnout liabilities and almost doubles the average *Goodwill/Transaction value* in earnout transactions during the pre-IFRS 3 (2008) period.

We also calculate *As-if goodwill* for the sample of earnouts during the post-IFRS 3 (2008) period *as if* the pre-IFRS 3 (2008) accounting treatment had been applied. *As-if goodwill* is calculated as the purchase price allocated to goodwill minus the fair value of earnout liability, given that earnout liabilities were usually not recognized before IFRS 3 (2008). Interestingly, *As-if goodwill* accounts for roughly only one-third (half) of the reported goodwill in partially (fully) reversed earnouts, comparable to that in the pre-IFRS 3 (2008) period. This descriptive evidence is consistent with the recognition of earnout liabilities after IFRS 3 (2018), leading to inflated goodwill.

If goodwill is inflated, then one might expect a corresponding decrease in goodwill when the value of the earnout liability is adjusted downward (Barth, Hodder, and Stubben 2008; Cedergren, C. Chen, and K. Chen 2019). As such, a combined business's actual profitability may not be mispresented, as earnout gains and impairment losses offset each other. We thus test whether the likelihood and magnitude of goodwill impairment during the post-acquisition period are associated with earnout reversals (Cadman et al. 2014; Chung et al. 2019). Specifically, we regress the likelihood and magnitude of goodwill impairment on *Reversal* and other common determinants of goodwill impairment identified in prior studies (Beatty and Weber 2006; Hayn and Hughes 2006). *Reversal* is a categorical variable that equals 0 if there is no earnout reversal (reference group), 1 if there is a partial reversal (or earnout is partially paid), and 2 if there is a full reversal (no earnout is paid) over the earnout period. If a decrease in earnout liability value corresponds with a decrease in goodwill, then the coefficient on *Reversal* would be positive.

Table 5, Panel B reports results. We observe no mechanical relation between downward adjustments of earnout liabilities and impairment losses of goodwill. Rather, acquirers that reverse their initially estimated earnout liability in full are less likely to impair the related goodwill. This supports the notion that managers aim to obtain an earnings boost via earnout reversals without impairing the related goodwill contemporaneously.

We further examine whether investors are able to discount the inflated goodwill. If the acquirer's equity market value impounds an acquisition's future benefits, then we expect the reported fair values of the net assets acquired and goodwill to relate to the acquirer's post-acquisition stock price (Wangerin 2019). However, if the value of goodwill is inflated through overstated earnout liabilities, then the reported goodwill represents less economic substance or, in other words, is less value relevant.

Following prior work, we regress acquiring firms' post-deal stock price on the initial fair value estimates reported in the acquisition fiscal year (Wangerin 2019; Blann, Campbell, Shipman, and Wiebe 2020). The model is illustrated in Equation (2):

$$Price = \alpha + \beta_1 BVE\_net + \beta_2 FV\ net\ assets + \beta_3 Goodwill + \lambda_1 BVE\_net \times Overstate\_dummy$$
$$+ \lambda_2 FV\ net\ assets \times Overstate\_dummy + \lambda_3 Goodwill \times Overstate\_dummy + \epsilon, \qquad (2)$$

where *Price* is the acquirer's stock price three months after the acquisition fiscal year-end date. To control for other classes of assets unrelated to the acquisition, we include *BVE_net*, defined as the acquirer's book value of equity at the end of the acquisition fiscal year net of the transaction value. *FV net assets* represents fair value estimates of acquired net assets in an earnout transaction. It is calculated as the transaction value minus goodwill recognized at the acquisition date. *Goodwill* is the allocation of the purchase price to goodwill. All explanatory variables are deflated by the acquirer's number of shares outstanding. Table 6, Panel A reports summary statistics of the test variables.

To allow the parameters to vary across firms that may have different degrees of discretion in estimating earnout fair value, we interact the indicator variable *Overstate_dummy* with different classes of assets in the combined business

TABLE 5

Goodwill in Earnout Transactions

Panel A: Purchase Price Allocated to Goodwill

	(1) No Reversal (Earnout is Paid in Full)	(2) Partial Reversal (Earnout is Partially Paid)	(3) Full Reversal (No Earnout is Paid)	(4) Pre-IFRS 3 (2008)
n	32	39	57	119
Goodwill/Transaction value	43.1%	58.8%	62.5%	30.4%
As-if goodwill/Transaction value	29.8%	17.1%	31.7%	—

Panel B: Reversal of Earnout Liabilities and Goodwill Impairment

	Predicted Sign	(1) Impairment (0/1)	(2) Impairment Loss
Reversal = 1 (partial reversal)	+/–	0.270*	0.068
		(1.87)	(0.69)
Reversal = 2 (full reversal)	+/–	−0.171**	−0.083***
		(−2.66)	(−3.12)
Cross border	+	−0.092	−0.003
		(−0.56)	(−0.23)
Cross industry	+	−0.192**	−0.074
		(−2.21)	(−1.30)
Earnout size/Deal value	+/–	0.060	0.149
		(0.14)	(0.55)
Goodwill/Transaction value	+/–	−0.104***	−0.033
		(−2.94)	(−1.58)
Acq CAR	–	−0.003	0.022
		(−0.11)	(0.89)
Big4	+	−0.135	−0.107
		(−1.11)	(−1.34)
Acq ROA	–	0.000	−0.000
		(0.89)	(−1.11)
Acq market-to-book	+	0.001**	0.000**
		(2.32)	(1.99)
Acq debt/Assets	+/–	−0.000**	0.000
		(−2.21)	(0.89)
Fixed effects		Industry, Year	Industry, Year
Adjusted R^2		49.2%	58.1%
n		128	128
Number of *Imp* = 1		15	15

*, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

This table reports the relation between earnout liabilities and acquisition-specific goodwill. Panel A reports the average value of goodwill as a percentage of the total purchase price in earnout transactions. *Goodwill/Transaction value* is the purchase price allocation to goodwill scaled by the purchase price. *As-if goodwill* is the purchase price allocation to goodwill minus the fair value of earnout liabilities, as if the pre-IFRS 3 (2008) accounting treatment had been applied. The subsamples presented in Panel A, columns (1)–(3) are earnout transactions under IFRS 3 (2008), segmented by *Reversal* with (1) no reversal: no subsequent reversal of earnout liabilities, (2) partial reversal: the initially estimated earnout liability is partially reversed, and (3) full reversal: the initially estimated earnout liability is fully reversed, respectively. The subsample presented in Panel A, column (4) includes earnout transactions in the pre-IFRS 3 (2008) period. Panel B reports the association between the reversal of overstated earnout liabilities and goodwill impairment loss. The dependent variable in column (1) is an indicator variable *Imp* that equals 1 if goodwill arising from an earnout transaction is impaired during the earnout period. The dependent variable in column (2), *Imp loss*, is calculated as the absolute amount of impairment losses recognized during the earnout period, deflated by the transaction value. *Reversal* is a categorical variable, with "no reversal" = 0 (benchmark group), "partial reversal" = 1, and "full reversal" = 2. Acquirer industry (SIC two-digit) and year fixed effects are included. t-statistics are in parentheses and based on standard errors clustered at the acquiring firm level.

See Appendix A for variable definitions.

TABLE 6

Investors' Valuation of Goodwill in Earnout Transactions

Panel A: Summary Statistics

	n	**Mean**	**p10**	**Median**	**p90**	**Std. Dev.**
Price ($)	159	1.14	0.04	0.38	4.76	4.82
BVE_net	159	0.83	0.01	0.23	1.91	1.95
FV net assets	159	0.09	0.00	0.02	0.20	0.22
Goodwill	159	0.08	0.00	0.02	0.17	0.15
As-if goodwill	159	0.05	0.00	0.01	0.22	0.89
Inflated component	159	0.03	0.00	0.01	0.09	0.65
Overstate_dummy	159	0.62	0.00	1.00	1.00	0.47

Panel B: Price Regression

	Predicted Sign	**(1)** *Price*	**(2)** *Price*
BVE_net	+	1.765***	1.412***
		(4.89)	(19.88)
FV net assets	+	3.397**	3.135***
		(2.36)	(4.33)
Goodwill	+	8.981***	
		(3.29)	
As-if goodwill	+		3.129***
			(8.49)
Inflated component	+		2.070
			(1.16)
BVE_net × Overstate_dummy	+/–	0.136	
		(0.46)	
FV net assets × Overstate_dummy	–	−1.360	
		(−0.93)	
Goodwill × Overstate_dummy	–	−6.678***	
		(−3.88)	
Overstate_dummy	+/–	0.685	
		(1.02)	
Adjusted R^2		79.3%	66.4%
n		159	159

*, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
This table reports results from regressing acquirers' post-deal stock prices on reported values of net assets acquired and goodwill in the acquisition year. Panel A reports descriptive statistics of the test variables. Panel B reports the price regression test. The dependent variable *Price* is acquiring firms' stock price three months after the acquisition fiscal year-end date. All explanatory variables are deflated by acquiring firms' number of outstanding shares at the end of the acquisition fiscal year. t-statistics are in parentheses and based on standard errors clustered at the acquiring firm level.
See Appendix A for variable definitions.

(Wangerin 2019). We expect a weaker association between acquiring firms' post-deal stock price and the value of goodwill if acquirers overstate their earnout liabilities, which in turn overstate the related goodwill. The sign of the coefficient λ_3 of the interaction term *Goodwill × Overstate_dummy* is expected to be opposite to that of the coefficient β_3 on the main variable *Goodwill*. The regression results presented in column (1) of Table 6, Panel B support our predictions.[16]

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[16] We acknowledge the potential for managers to inflate the value of specific intangible assets, such as in-process R&D (Chung et al. 2019), rather than goodwill through their discretion in allocating the purchase price to an acquiree's net assets. However, our findings do not support this view in the Australian context, given the insignificant coefficient on *FV net assets × Overstate_dummy*. This is likely due to the lower prevalence of R&D-intensive sectors in Australia and the fact that the recognition of an acquiree's in-process R&D as an asset was already in place before IFRS 3 (2008).

In column (2), we consider an alternative model specification by separating the goodwill value into two parts: (1) *As-if goodwill*, the allocation of the purchase price to goodwill less the fair value estimate of earnout liability as if the pre-IFRS 3 (2008) accounting treatment applied, and (2) *Inflated component*, which is the initial estimate of earnout liability fair value as required by IFRS 3 (2008). We find that the coefficient is statistically significant for the former, while insignificant for the latter, given the lack of economic substance. Overall, our results indicate that investors place little weight on the inflated component of goodwill that arises from overstated earnout liabilities.

VI. ADDITIONAL ANALYSES

Managers' Benefits from Earnout Accounting Gains

Our findings so far suggest that managers opportunistically estimate earnout liability fair values but that the market is aware of this and discounts the value of goodwill. We propose two potential explanations for this finding. First, there is a common perception in the market of a "buffer" in earnout deals, as the actual earnout payments are often lower than the contracted or maximum earnout amount. For example, Kohers and Ang (2000) show that, on average, only 62 percent of the total stated amount of earnouts was paid to the sellers of targets. Cain et al. (2011) find that the average expected earnout payments only account for 42.2 percent of the contracted or maximum earnout amount, and 19 percent of the sample firms exhibit an expected earnout payoff of zero. Therefore, when the market observes a significant amount of expected earnout included in the reported goodwill, it incorporates some discounting of reported goodwill. However, the market may not be able to fully discount the inflated goodwill, due to the inherent information asymmetry and uncertainty surrounding earnout transactions. The opaque disclosure regarding earnout liability reversals and associated gains further complicates valuations, inhibiting investors from accurately valuing goodwill in earnout deals. These factors still leave room for managerial opportunism.

The second potential explanation is that post-M&A operating performance is crucial for managers, particularly when they face a less favorable market reaction to an announced deal. Under such circumstances, managers may feel the need to justify their investment decisions as their job is potentially at risk (Lehn and Zhao 2006). They anticipate worse consequences if the post-acquisition operating performance falters, as this can influence board decisions regarding managerial turnover (Armstrong, Guay, and Weber 2010; Bond, Goldstein, and Prescott 2010). Therefore, to retain their employment with the acquiring firms, managers still have incentives to inflate post-deal accounting performance, even if the market places less value on an announced earnout deal.

To test this explanation, we follow prior studies and regress acquiring firms' CEO turnover in the three years during the post-M&A period on acquirers' announcement return *Acq CAR*, *Post M&A ROA adj*, *Overstate_dummy*, and their interaction terms as well as other controls. The regression model is specified in Equation (3):

$$CEO\ turnover = \alpha + \beta_1 Acq\ CAR + \beta_2 Acq\ CAR \times Overstate\_dummy + \beta_3 Post\ M\&A\ ROA\ adj$$
$$+ \beta_4 Post\ M\&A\ ROA\ adj \times Overstate\_dummy + \beta_5 Overstate\_dummy + \lambda\mathbf{C} + \epsilon, \tag{3}$$

where *CEO turnover* is an indicator variable, defined as a change in acquiring firms' CEO within three years after deal completion. *Post M&A ROA adj* is acquiring firms' average ROA in the three years after acquisition completion, adjusted for any earnout accounting gains or losses. We expect β_1 and β_3 to be negative, because a more negative market reaction to the acquisition announcement and poorer post-acquisition operating performance often lead to a higher CEO turnover (Lehn and Zhao 2006; Bond et al. 2010). Of interest are the interaction terms of *Acq CAR × Overstate_dummy* and *Post M&A ROA adj × Overstate_dummy*. If managers are able to alleviate investment- and performance-related pressure by inflating post-deal earnings through earnout accounting, then we expect β_2 and β_4 on these two interaction terms to be positive (Bens et al. 2012). We also control for additional factors, including *Post M&A BHR* (acquiring firms' buy-and-hold stock return in the three years after acquisition completion), *Ln(Post M&A market cap)*, and *CEO tenure*. Note that we restrict our test sample to acquirers with only one completed acquisition during the three-year period to mitigate the effect of any confounding acquisitions on CEO turnover likelihood. Table 7, Panel A reports a summary of the test variables.

Table 7, Panel B presents regression results. Consistent with the literature, we first confirm the inverse relation in column (1) between the likelihood of CEO turnover and acquirers' announcement returns, post-M&A operating performance (absent earnout gains or losses), and post-M&A stock performance. For example, a one-standard-deviation decrease in *Post M&A ROA adj* increases the turnover probability by 2.5 percent, representing a significant 22 percent increase relative to the sample mean. This suggests that managers' job security is at risk in the absence of positive financial performance.

TABLE 7
Overstated Earnout Liabilities and CEO Turnover

Panel A: Summary Statistics

	n	Mean	p10	Median	p90	Std. Dev.
CEO turnover (0/1)	126	0.11	0.00	0.00	1.00	0.43
Acq CAR	126	0.06	−0.02	0.01	0.18	0.17
Overstate_dummy	126	0.68	0.00	1.00	1.00	0.47
Post M&A ROA adj	126	−0.19	−0.22	0.05	0.09	1.03
Post M&A BHR	126	0.03	−0.07	0.00	0.11	0.72
Post M&A market cap (in $m)	126	569.23	14.25	139.96	1066.60	1488.28
CEO tenure	126	4.36	1.38	3.21	8.56	5.88

Panel B: Effect of Earnout Overstatement on CEO Turnover

	Predicted Sign	(1) *CEO turnover*	(2) *CEO turnover*
Acq CAR	−	−0.033*	−0.061**
		(−1.81)	(−1.99)
Acq CAR × Overstate_dummy	+		0.049***
			(3.81)
Post M&A ROA adj	−	−0.024**	−0.038**
		(−2.45)	(−2.13)
Post M&A ROA adj × Overstate_dummy	+		0.050**
			(2.16)
Overstate_dummy	+/–		0.064
			(0.83)
Post M&A BHR	−	−0.034**	−0.045***
		(−2.45)	(−2.87)
Ln(Post M&A market cap)	+/–	0.032	0.051
		(0.33)	(0.52)
CEO tenure	+	0.003***	0.006***
		(2.79)	(3.51)
Fixed effect		Industry, Year	Industry, Year
Pseudo R^2		23.4%	32.8%
n		126	126

*, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
This table presents the relation between acquiring firms' CEO turnover in three years after deal completion and overstatement of earnout liabilities. Panel A reports descriptive statistics of the test variables. Panel B reports marginal effects of probit regression results of Equation (3). Acquirer industry (SIC two-digit) and year fixed effects are included. z-statistics are in parentheses and based on standard errors clustered at the acquiring firm level.
See Appendix A for variable definitions.

When we include the interaction terms in column (2), the coefficients on *Acq CAR × Overstate_dummy* and *Post M&A ROA adj × Overstate_dummy* are all positive and statistically significant, as expected. This is consistent with the findings of Bens et al. (2012), suggesting that the likelihood of acquirer CEOs departing due to poor investment or financial performance is mitigated by "cosmetic" operating performance post-M&A. Therefore, our findings imply that acquirers' managers can indeed reap a benefit from their opportunistic application of earnout fair value accounting.

IFRS 3 (2008) and the Use of Earnouts in Australia

In our final analysis, we examine the impact of IFRS 3 (2008) on the use of earnouts. To establish causality, we adopt a difference-in-differences approach and use private acquirers as the control sample (Iselin and Nicoletti 2017). This is because the ubiquitous benefits of using earnouts (i.e., mitigating valuation risk and alleviating acquirers' financial constraints) also apply to private acquirers (Jansen 2020). Nevertheless, public firms face greater market pressure on

near-term performance than private firms (Chen et al. 2016; Golubov and Xiong 2020). Additionally, empire-building is less of a concern in private firms (Jensen and Meckling 1976). Thus, public acquirers might have greater incentives than private ones to incorporate earnouts after IFRS 3 (2008) became effective.

We estimate a difference-in-differences model as represented by the following equation:

$$\Pr(Earnout = 1) = \alpha + \beta \, Public \ acquirer \times Post + \lambda\mathbf{C} + FE + \epsilon, \tag{4}$$

where the dependent variable *Earnout* equals 1 if an acquisition is labeled in SDC Platinum database as an earnout deal, and 0 otherwise. *Public acquirer* is an indicator variable that equals 1 if the acquiring firm is a public firm, and 0 otherwise. *Post* is an indicator variable set to 1 for acquisitions completed in fiscal years ending on or after the effective date of IFRS 3 (2008), and 0 otherwise. Of particular interest is β, the coefficient on the interaction term *Public acquirer* × *Post*, which captures the change in the likelihood of earnout use by public acquirers after IFRS 3 (2008) became effective. **C** is a vector of control variables that may influence the use of earnouts in acquisitions, including *Cross border*, *Cross industry*, *Tar industry volatility*, *Tar industry Q*, *Ln(Deal value)*, and *Acq acquisition experience*. Table 8, Panel A reports summary statistics of the test variables.

We estimate Equation (4) using a linear probability regression and report results in Table 8, Panel B, with target industry (SIC two-digit) and year fixed effects in column (1) (Bates et al. 2018) and acquirer firm and year fixed effects in column (2). Consistent with our predictions, the coefficient on *Public acquirer* × *Post* is positive and statistically significant at the 1 percent level. This suggests that the new accounting rule increases public firms' likelihood of using earnouts, compared to private acquirers. The economic impact is substantial. The adoption of IFRS 3 (2008) in Australia leads to an increase in public firms' likelihood of using earnouts by approximately eight percentage points, that is, a relative increase of 80 percent compared to the unconditional probability of ten percentage points.

We also test whether the size of earnouts grows after the adoption of IFRS 3 (2008) by replacing the dependent variable in Equation (4) with *Earnout size*, which is calculated as the size of earnout divided by deal value

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TABLE 8

IFRS 3 (2008) and the Use of Earnouts in Acquisitions of Private Targets

Panel A: Summary Statistics

	n	Mean	p10	Median	p90	Std. Dev.
Earnout (0/1)	6,414	0.10	0.00	0.00	0.00	0.29
Earnout size	6,414	0.03	0.00	0.00	0.00	0.12
Public acquirer	6,414	0.62	0.00	1.00	1.00	0.48
Post (0/1)	6,414	0.42	0.00	0.00	1.00	0.49
Ln(Deal value)	6,414	2.69	0.65	2.43	5.06	1.70
Cross border (0/1)	6,414	0.22	0.00	0.00	1.00	0.42
Cross industry (0/1)	6,414	0.35	0.00	0.00	1.00	0.48
Tar industry volatility	6,414	0.31	0.18	0.28	0.44	0.16
Tar industry Q	6,414	1.34	1.03	1.26	1.82	0.35
Acq acquisition experience	6,414	5.53	1.00	1.00	9.00	9.90

Panel B: OLS Regression Results

	Predicted Sign	(1) *Earnout* (0/1)	(2) *Earnout* (0/1)	(3) *Earnout size*
Public acquirer	+	0.044***		
		(3.72)		
Public acquirer × Post	+	**0.082***	**0.073***	**0.024**
		(4.01)	**(2.83)**	**(2.16)**
Ln(Deal value)	–	−0.001	0.010***	0.002
		(−0.81)	(3.89)	(1.33)
Cross border	+	0.022**	0.008	−0.018
		(2.52)	(0.89)	(−0.23)

(continued on next page)

TABLE 8 (continued)

|	Predicted Sign	(1) *Earnout (0/1)*	(2) *Earnout (0/1)*	(3) *Earnout size*
Cross industry	+	−0.002	0.013	−0.021
		(−0.11)	(1.05)	(−0.28)
Tar industry volatility	+	0.033**	−0.002	0.002
		(2.38)	(−0.23)	(0.18)
Tar industry Q	+	0.039**	0.004**	0.001*
		(2.33)	(2.20)	(1.87)
Acq acquisition experience	−	−0.000*	−0.000	0.000
		(−1.91)	(−0.32)	(0.08)
Fixed effects		Industry, Year	Firm, Year	Firm, Year
Adjusted R^2		9.5%	28.3%	48.1%
n		6,414	3,966	3,966

*, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
This table reports the effect of IFRS 3 (2008) on the use of earnouts in Australia using a sample of acquisitions of private targets and a difference-in-differences approach. Panel A presents summary statistics for the test variables. Panel B presents OLS regression results. The dependent variable *Earnout* in columns (1) and (2) equals 1 if an acquisition is labeled as an earnout deal, and 0 otherwise. The dependent variable *Earnout size* in column (3) is measured as the amount of earnout scaled by deal size in a transaction. It sets to 0 if no earnout is used (Allee and Wangerin 2018). *Post* is an indicator variable that equals 1 if the acquisition is completed after IFRS 3 (2008), and 0 otherwise. Target industry (SIC two-digit) and year fixed effects are included in column (1), and acquiring firm and year fixed effects are included in columns (2) and (3). t-statistics are in parentheses and based on standard errors clustered at the acquiring firm and year level. The coefficients of primary interest are highlighted in bold.
See Appendix A for variable definitions.

FIGURE 1
Earnout Usage in Acquisitions of Private Targets in Australia
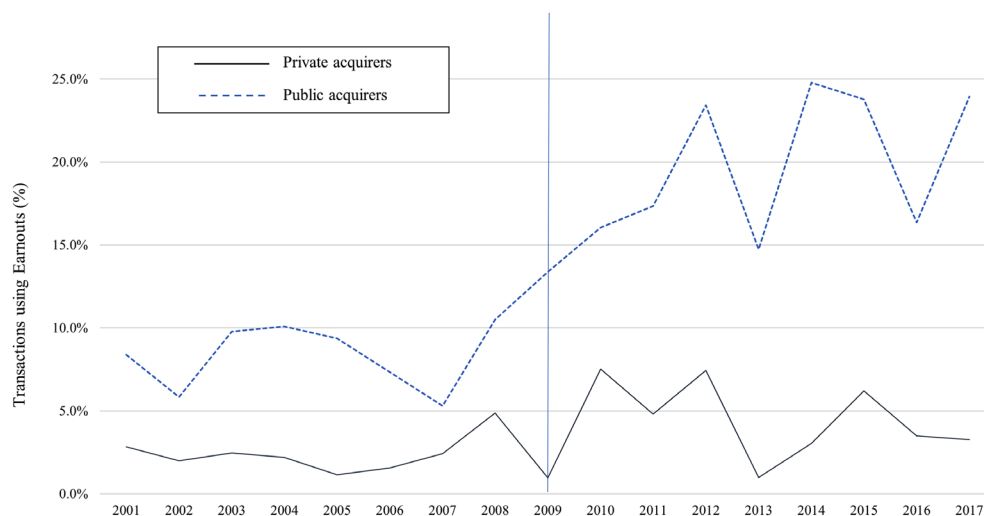
This figure shows the percentage of transactions by year for acquisitions of private targets in which earnouts are used between 2001 and 2017 in Australia. It distinguishes between transactions by public (dotted line) and private (solid line) acquirers. The vertical line indicates the adoption year of IFRS 3 (2008) in Australia.
(The full-color version is available online.)

(Allee and Wangerin 2018). Regression results presented in column (3) support predictions that the average earnout size is positively associated with the adoption of the new earnout accounting rule.

We present visually in Figure 1 Australian acquirers' use of earnouts in acquisitions of private targets by calendar year. The graph distinguishes transactions by Australian public acquirers (dotted line) from those of private acquirers

(solid line). The vertical line represents the adoption year of IFRS 3 (2008) in 2009. Consistent with our difference-in-differences evidence, we show visually that, prior to 2009, the difference in earnout usage between public and private acquirers is relatively stable at around 6 percent. The gap widened significantly after 2009. Public acquirers show a substantial increase in the use of earnouts in their transactions, reaching a peak of 25 percent over 2014–2015, whereas the rate for private acquirers remains at around 5 percent. Note that the trend in Figure 1 resembles that illustrated in Figure 2 of Jansen (2020) about the earnout usage in the United States. In both countries, the gap between public and private acquirers in earnout use has widened since the adoption of fair value accounting for earnouts. In sum, our evidence suggests that the accounting benefit brought about by IFRS 3 (2008) has contributed to an increase in the frequency of earnout use by public acquirers.[17]

VII. CONCLUSION

This study explores the consequences of fair valuing earnouts as required by IFRS 3 (2008) in the context of Australian acquisitions. Our findings reveal managerial opportunism in the application of earnout fair value accounting, which enables acquirers to obtain substantial "free" gains boosting their post-acquisition earnings. This choice serves managers' interest in securing their employment with acquirers, potentially leading to an increase in the use of earnouts in public acquirers' acquisitions. Our findings thus shed light on the interplay between acquisition contracting, financial reporting, and managerial behavior.

Our research has important implications. We raise questions regarding the usefulness and reliability of the fair value method for highly uncertain and opaque items, calling for greater scrutiny and transparency in earnout accounting and disclosure practices. Plausible solutions to the current limitations of earnout accounting include revisiting the recognition criteria for earnout liabilities, adjusting the value of goodwill or related assets by the change in the value of earnout liabilities to avoid "accounting mismatch," and enhancing acquirers' disclosure and presentation of earnout gains and losses. Financial statement users should also back out these gains from other "real" earnings (Blumen 2014).

Our study also highlights the need to consider institutional contexts that may exacerbate or attenuate the limitations of specific accounting standards. For example, in Australia's less rich information environment, without quarterly financial reports and with lower litigation risk, managers may perceive less scrutiny and a lower likelihood of legal consequences for their opportunism. Our findings thus contribute to discussions around the ongoing convergence efforts of accounting standard setters and have broader implications beyond the current research context. Overall, our study provides insights for standard setters, auditors, analysts, and investors.

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[17] We also conduct a falsification test of Equation (4) (untabulated) using a sample of U.K. acquisitions. The interaction term *Public acquirer × Post* is insignificant. This can be attributed to two key factors in the U.K. context. First, the availability of financial reports for private targets imposes constraints on the extent to which earnout liabilities can be overstated. Market transparency for private targets discourages acquirers from manipulating earnout fair value estimates. Second, the U.K. GAAP or FRS 102 does not permit fair value accounting for contingent consideration.

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APPENDIX A

Variable Definitions

Variables	Definitions
Earnout and Deal-Related	
Earnout	An indicator variable that equals 1 if the consideration offered is labeled in the SDC Platinum database as earnout, and 0 otherwise.
Earnout size	Earnout amount scaled by deal value.
Overstatement	Acquirer's initial earnout liability minus actual earnout payment, scaled by initial earnout liability.
Overstate_dummy	An indicator variable that equals 1 if an acquirer's initial earnout liability is larger than the actual earnout payment, and 0 otherwise.
Reversal	A categorical variable that takes the value of 1 if the initially estimated earnout liability is partially reversed, 2 if fully reversed, and 0 if there is no reversal.
Earnout gains/Total assets	Absolute amount of earnout gains/losses (if any) recorded in acquiring firms' net income scaled by the beginning balance of total assets.
Ln(Deal value)	Natural logarithm of the transaction value (including the maximum amount of earnout).
Cross border	An indicator variable that equals 1 if the target is in a country different from the acquirer's country of domicile, and 0 otherwise.
Cross industry	An indicator variable that equals 1 if the acquirer's two-digit SIC industry code and the target's primary two-digit SIC code are different, and 0 otherwise.
Acq CAR	Acquirer's three-day market-adjusted cumulative abnormal return centered on the acquisition announcement date [–1, 1], with the equally weighted daily return of all ASX-listed stocks as the market benchmark.
Debt-financing	An indicator variable that equals 1 if the financing source for an announced deal includes borrowing or debt, and 0 otherwise.
Acquirer and Target Characteristics	
Ln(Acq total assets)	Natural logarithm of acquirer's total assets.
Acq debt/Asset	Acquirer's total debt divided by total assets.
Acq CFO	Acquirer's cash flow from operations divided by total assets.
Acq ROA	Acquirer's operating net profits divided by total assets.
Acq acquisition experience	Number of acquisitions by the same acquirer recorded in SDC from January 1, 2001, to the acquisition announcement date.
Acq market-to-book	Acquirer's equity market value divided by book value of total equity.
Big 4	An indicator variable that equals 1 if the auditor of an acquirer in the acquisition year is a Big 4 auditor, and 0 otherwise.
CEO bonus/Total pay	Ratio of acquiring firm's CEO bonus scaled by total pay in the year prior to acquisition completion.
Meet or beat	An indicator variable that equals 1 if an acquirer meets or beats analyst earnings forecast, and 0 otherwise.
Ln(Number of analysts)	Natural logarithm of the number of analysts following in an acquiring firm.
Analyst following	An indicator variable that equals 1 if an acquiring firm has at least one following analyst, and 0 otherwise.
ΔDecline	An indicator variable that equals 1 if an acquiring firm's actual prior-year EPS exceeds its current year pre-reversal EPS, and 0 otherwise.
Pre-reversal loss	An indicator variable that equals 1 if an acquiring firm has a pre-reversal net loss in the year when earnout fair value gains are recorded, and 0 otherwise.
Tar industry volatility	Annualized volatility of the value-weighted return of the target's industry, measured over the last 100 days prior to the acquisition announcement.
Tar industry Q	Median value of Tobin's Q for listed firms in the same industry as the target firm in the fiscal year before the deal announcement. Q is the ratio of market value of a firm to the book value of its total assets, where firm market value is measured as book value of total assets less book value of equity plus market value of equity.

APPENDIX A (continued)

Variables	Definitions
Goodwill and CEO Turnover-Related	
Goodwill	Allocation of the purchase price to goodwill.
Goodwill/Transaction value	Allocation of the purchase price to goodwill, scaled by transaction value.
As-if goodwill	Allocation of the purchase price to goodwill minus the initial estimate of earnout liability fair value.
Inflated component	The initial estimate of earnout liability fair value.
Imp	An indicator variable that equals 1 if the goodwill arising from an earnout transaction is impaired during the earnout period, and 0 otherwise.
Imp loss	Absolute amount of impairment losses recognized during the earnout period, scaled by transaction value.
Price	Acquirer's stock price three months after the acquisition fiscal year-end date.
BEV_net	Acquirer's book value of equity at the end of the acquisition fiscal year net of the acquisition value.
FV net assets	Fair value estimates of acquired net assets, calculated as the transaction value minus goodwill recognized at the transaction date.
CEO turnover	An indicator variable that equals 1 if there is a change in the acquiring firm's CEO during the three-year period after deal completion, and 0 otherwise.
CEO tenure	Duration (in years) since an acquiring firm's CEO takes office measured at the year of deal completion.
Ln(Post M&A market cap)	Natural logarithm of an acquirer's market value of equity in the year of deal completion.
Post M&A ROA adj	An acquiring firm's average ROA in three years after the acquisition completion, adjusted by deducting any earnout accounting gains/losses.
Post M&A BHR	An acquiring firm's buy-and-hold stock return over three years after the acquisition completion.
Others	
Public acquirer	An indicator variable that equals 1 if the acquirer in an acquisition is a public company, and 0 otherwise, as indicated by SDC Platinum.
Post	An indicator variable that equals 1 if an acquisition is completed after the effective date of IFRS 3 (2008), and 0 otherwise.
Narrative Score	The presence of the five disclosure elements: (1) valuation techniques; (2) significant unobservable inputs; (3) estimated probability of earnout payments, undiscounted amount, and discount rate; (4) an explicit presentation of earnout fair value gains (either as a line item in the income statement or a Level 3 rollforward table for recurring earnout liability); and (5) an explanation of the underlying reason of an earnout fair value gain (loss) being recognized.
Informative discloser	An indicator variable that equals 1 if an acquirer's *Narrative Score* is above the sample median, and 0 otherwise.
Opaque discloser	An indicator variable that equals 1 if an acquirer's *Narrative Score* is equal to or lower than the sample median, and 0 otherwise.

APPENDIX B

Examples of Earnout Accounting and Related Disclosures

Appendix B1: A Hypothetical Example of Accounting for Liability-Classified Earnouts

We follow the hypothetical example in Cadman et al. (2014) Appendix B and add more scenarios of earnout fair value adjustments.

Assume the following:

Company P acquires Company T with an upfront cash consideration of $7 million and earnout payments in cash up to $5 million, which is payable in cash in one year based on the target (Company T) achieving agreed performance

APPENDIX B (continued)

hurdles. Fair value of the identifiable net assets of Company T is $6 million. Before IFRS 3 (2008), contingent consideration obligations were not generally recognized at the acquisition date, and subsequent value changes were made against goodwill. Under IFRS 3 (2008), the acquiring firm P is required to estimate the fair value of the earnout at the acquisition date. Assuming Company P's initial estimate of earnout liability at the time of acquisition is $3 million (ignore discount rate).

Year 0

Pre-IFRS 3 (2008)			**Post-IFRS 3 (2008)**		
DR: Net assets	$6m		DR: Net assets	$6m	
Goodwill	$1m		Goodwill	$4m	
CR: Cash		$7m	CR: Cash		$7m
			Earnout liability		**$3m**

Year 1

(1) If the acquirer Company P pays the $3m earnout, then there is no income statement effect.

Pre-IFRS 3 (2008)			**Post-IFRS 3 (2008)**		
DR: Goodwill	$3m		DR: Earnout liability	$3m	
CR: Cash		$3m	CR: Cash		$3m

(2) Under IFRS 3 (2008), if the target T does not achieve the performance hurdle and acquirer P pays $0, then the acquirer will fully reverse the initially estimated earnout liability and record a $3m fair value gain.

Pre-IFRS 3 (2008)	**Post-IFRS 3 (2008)**		
None	DR: Earnout liability	$3m	
	CR: **Fair value gain**		**$3m**

(3) Under IFRS 3 (2008), if the earnout is paid *pro rata* and acquirer P pays a $1m earnout, then the acquirer will reverse the unpaid earnout liability of $2m and record it as a fair value gain.

Pre-IFRS 3 (2008)			**Post-IFRS 3 (2008)**		
DR: Goodwill	$1m		DR: Earnout liability	$3m	
CR: Cash		$1m	CR: **Fair value gain**		**$2m**
			Cash		$1m

(4) Under IFRS 3 (2008), if the target T outperforms the predetermined hurdles and acquirer P pays $5m, then the extra amount not estimated in the initial earnout liability is recognized as a $2m fair value loss.

Pre-IFRS 3 (2008)			**Post-IFRS 3 (2008)**		
DR: Goodwill	$5m		DR: Earnout liability	$3m	
CR: Cash		$5m	**Fair value loss**	**$2m**	
			CR: Cash		$5m

Appendix B2: An Example of Earnout Fair Value Disclosure

Here is an excerpt from HUB24 Limited's (ASX ticker: HUB) financial reports in 2017–2019, regarding the disclosure of contingent consideration at the date of acquisitions and subsequent earnout fair value gains.

APPENDIX B (continued)

On January 3, 2017, HUB acquired 100 percent of the issued shares in Agility for consideration of up to $15 million in cash and shares. In HUB's 2017 financial report as of June 30, 2017, HUB disclosed the initial estimate of the fair value of contingent consideration.

Details of the purchase consideration are as follows:

Purchase Consideration	Total $
Cash paid—at completion	2,793,335
Shares issued—at completion	3,907,766
Deferred consideration	1,876,113
Contingent consideration—first performance period (December 31, 2018)	2,938,667
Contingent consideration—second performance period (December 31, 2019)	2,772,328
Total purchase consideration	**14,188,209**

Accordingly, the total value of contingent consideration is recorded as **a noncurrent liability of $5,710,995** in HUB's 2017 balance sheet.

Below is an excerpt of the disclosure of **earnout fair value gains in the two years** after the acquisition of Agility in HUB's 2019 income statement.

	Consolidated	
	2019 $	**2018 $**
Revenue from continuing operations		
Revenue	96,358,115	83,997,822
Fair value gain on contingent consideration	1,145,336	2,383,850
Interest and other income	1,164,132	613,162
	98,667,583	**86,994,834**
…		
Profit before income tax	10,845,742	9,809,834
Profit after income tax for the year	**7,163,955**	**7,378,749**
…		
Total comprehensive income for the year	**7,163,955**	**7,378,749**

HUB revised the probabilities of the acquiree Agility meeting the predetermined performance criterion from 100 percent at the acquisition date in 2017, to 66 percent in 2018, and further down to 53 percent in 2019. This resulted in an earnout gain of $2.4 million and $1.1 million, accounting for **32.3 percent** and **16.0 percent** of HUB's net income in 2018 and 2019, respectively. There was no corresponding goodwill impairment recorded.