# University of Technology Sydney School of Accounting

Takeover Gains and the Recognition of Identifiable Intangible Assets

Wun-Hong Su

Supervisors

Associate Professor Peter Wells University of Technology, Sydney

> Professor Greg Clinch University of Melbourne

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#### **CERTIFICATE OF AUTHORSHIP/ORIGINALITY**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Si	ignature of Student
	Wun-Hong Su

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#### **ABSTRACT**

This thesis investigates a number of issues surrounding the recognition of identifiable intangible assets consequent to business acquisitions in Australia. There is a body of research that evaluates a firm's decision to allocate acquisition premiums to identifiable intangible assets, rather than goodwill, and this behaviour is commonly labelled opportunistic (e.g. Walker 1989; Woolf 1989; Carlin & Finch 2007). This thesis extends this literature in two ways. First, it evaluates the association between identifiable intangible assets recognised in a business combination and acquisition premiums paid in Australia. Second, it evaluates the relation between amounts recognised as identifiable intangible assets and postacquisition performance. Of particular interest is whether the recognition of identifiable intangible assets encourages 'overpayment' and as a consequence is associated with poor post-acquisition performance. This evaluation is also undertaken across periods before and after the introduction of International Financial Reporting Standards (IFRS) in 2005, which changed the accounting treatments for identifiable intangible assets and goodwill. In the period prior to the transition to IFRS, there is evidence that firms recognising identifiable intangible assets made acquisitions with higher acquisition premiums. However, this did not persist subsequent to the transition to IFRS when the opportunistic incentive to avoid recognising goodwill ceased. There is also evidence of firms recognising identifiable intangible assets reporting poorer post-acquisition performance. These results are consistent with the ability to recognise identifiable intangible assets encouraging overpayment, and firms attempting to obscure this through making opportunistic accounting choices.

## **Chapter 1: Introduction and Overview**

#### 1. Introduction

Prior to transition to IFRS in Australia in 2005, there was considerable discretion with respect to accounting for business combinations. While acquisition premiums were required to be recognised as goodwill, the amount recognised could be reduced by the recognition of identifiable intangible assets. The decision to recognise identifiable intangible assets was certainly impacted by the requirement to amortise goodwill over a period not exceeding 20 years, while there was no such requirement for identifiable intangible assets.

This thesis investigates the recognition of identifiable intangible assets by firms that were consequent to business acquisitions in Australia over the period 1988-2008. In particular, it is concerned with whether firms that recognise identifiable intangible assets make acquisitions with higher acquisition premiums, and whether there are differences in post-acquisition performance. Furthermore, it considers whether this changes with transition to IFRS. This thesis will provide insights into whether the flexibility afforded to firms in accounting for identifiable intangible assets (rather than goodwill) encouraged firms to 'overpay' for acquisitions, and whether this results in poorer post-acquisition performance.

#### 2. Research Motivation

Prior to the transition to IFRS in Australia in 2005, it was common for firms to allocate some of the acquisition premiums in business acquisitions to identifiable

intangible assets. This is well recognised in the literature which identifies a diverse range of identifiable intangible assets being created (e.g. Wyatt, Matolcsy & Stokes 2001). It is also suggested that an incentive for this was that acquiring firms, by allocating a higher proportion of the acquisition purchase price in a business combination to identifiable intangible assets, could decrease the amount of goodwill amortisation in subsequent years, and thus reduce the associated 'drag' on reported earnings (e.g. Wines & Ferguson 1993; Miller 1995; Clinch 1995; Whittred, Zimmer & Taylor 2000; Carlin & Finch 2007; James, How & Verhoeven 2008). A similar argument has been made in the US share market regarding a firm's choice of the pooling-of-interests method ("the pooling method") in business combinations, when that method was permitted (e.g. Nathan 1988; Robinson & Shane 1990; Hopkins, Houston & Peters 2000; Aboody, Kasznik & Williams 2000). The pooling method enabled firms to avoid recognising goodwill, and consequently avoid the 'drag' on subsequent earnings that would occur under the purchase method.

More recently, there has been evidence of acquiring firms in the US using the pooling method appearing to pay higher acquisition premiums (e.g. Ayers, Lefanowicz & Robinson 2002). This is consistent with firms being prepared to use the 'accounting benefit' associated with the avoidance of goodwill amortisation to pay higher prices in acquisitions, or possibly 'overpay'. An issue requiring address is whether this also occurred in Australia with the recognition of identifiable intangible assets.

The first research question in this thesis is whether there is any evidence of higher acquisition premiums for firms recognising identifiable intangible assets. This is assessed in the period prior to the adoption of IFRS (1988-2004), when the accounting rules

prescribed amortisation of goodwill. It is also assessed in the period subsequent to the adoption of IFRS (2005-2008), when the requirement to amortise goodwill no longer existed. A positive association, between takeover premiums paid and the relative proportion of acquisition purchase price allocated to identifiable intangible assets in a business combination prior to the adoption of IFRS, would be consistent with Australian firms paying for the 'accounting benefit' of goodwill amortisation avoidance.

The second research question in this thesis is whether there is any evidence of amounts recognised as identifiable intangible assets being associated with firm performance subsequent to the acquisition. Furthermore, whether the relation between amounts recognised as identifiable intangible assets and firm performance is different from the relation between goodwill and firm performance. This is also evaluated before and after the transition to IFRS.

In combination, these studies will provide insights into whether the opportunity to recognise identifiable intangible assets encouraged firms to 'overpay' for business acquisitions with the result being poor post-acquisition performance.

#### 3. Main Results

There are a number of findings in this thesis concerning the circumstances surrounding the recognition of identifiable intangible assets consequent to business acquisitions.

First, there is evidence of a significant positive association between the relative proportion of the acquisition premium allocated to identifiable intangible assets and the takeover purchase price in business combinations between 1988 and 2004 in the

Australian share market. The evidence is consistent with Australian firms' willingness to pay a higher premium in order to avoid goodwill when they were able to allocate more of the purchase price to identifiable intangible assets. This finding is consistent with the 'purchase versus pooling' evidence from the US.

Second, the adoption of IFRS has resulted in a weaker, and insignificant positive, association between the relative proportion of the acquisition price in a business combination allocated to identifiable intangible assets and the acquisition purchase price paid. This is consistent with acquiring firms no longer having an incentive to engage in 'goodwill avoidance' via recognised identifiable intangibles. Accordingly, there is no evidence of the 'accounting benefit' applied after the advent of IFRS.

Third, in the Australian share market during the period 1988-2008, goodwill recognised consequent to an acquisition is positively associated with post-acquisition performance. Furthermore, evidence is also provided that goodwill recognised is associated with increases in firm performance subsequent to the acquisition. This is not the case for amounts recognised as identifiable intangible assets. The association of amounts recognised as goodwill and identifiable intangible assets, and post-acquisition performance and changes in performance, are significantly different. These results are consistent with opportunistic motivations impacting the decision to recognise identifiable intangible assets rather than goodwill. It is also consistent with the opportunity to recognise identifiable intangible assets encouraging 'overpayment'.

Finally, the sensitivity of the above result to the adoption of IFRS is also considered. There is no evidence in either both the pre- and post-IFRS transition periods

of amounts recognised as identifiable intangible assets being positively associated with firm performance.

#### 4. Contribution of thesis

This thesis contributes to existing academic literature and provides evidence to regulators and market participants in four ways.

First, this thesis provides insight into the manner in which the relation between recognised identifiable intangible assets in a business combination and acquisition gains has been interpreted and applied by listed firms in the Australian share market over the period 1988-2008. It is the only research which explores the relation between takeover premiums and the relative proportion of acquisition purchase price allocated to identifiable intangible assets in Australia, before and after the adoption of IFRS. This research is based on hand-collected data from the acquirer's annual report for the post-acquisition year; footnote disclosure of the allocation of the acquisition price to the target's assets; and liabilities. This thesis sheds light on the accounting regulators' concerns that Australian firms had generally been able to employ identifiable intangible assets to avoid goodwill amortisation in business combinations, in order to reduce the associated 'drag' on reported earnings (e.g. Nathan 1988; Robinson & Shane 1990; Wines & Ferguson 1993; Miller 1995; Clinch 1995; Hopkins, Houston & Peters 2000; Aboody, Kasznik & Williams 2000; Whittred, Zimmer & Taylor 2000; Ayers, Lefanowicz & Robinson 2002; Carlin & Finch 2007; James, How & Verhoeven 2008).

Second, this thesis provides an important contribution to the related US literature.

The Australian setting provides a potential advantage for this thesis in comparison with

the US, due to the relatively low cost to Australian firms (and high frequency) of employing identifiable intangible assets for goodwill amortisation avoidance. Pooling firms managing business combination deals were required to satisfy a collection of stringent requirements – most notably, that consideration for the acquisition to be mainly shares of the bidding firm. A major impediment to pooling firms was the resultant dilution the ownerships of the acquiring firm's shareholders. This impediment did not exist for Australian firms. Therefore, a wide range of Australian firms had been able to access the purported reporting benefits attached to recognised identifiable intangible assets relative to the number of US pooling firms.

Third, this thesis adds to recent research relating to firms' motives for undertaking business combinations. This contribution is achieved by investigating how the percentage of the acquisition purchase price, allocated to identifiable intangible assets and goodwill, influences a combined firm's post-acquisition financial performance. The results found in this thesis thus provide further evidence regarding motivations for business combinations (e.g. Penrose 1959; Marris 1964; Jensen & Meckling 1976; Meeks 1977; Asquith, Bruner & Mullins 1983; Asquith 1983; Lubatkin 1983; Jensen 1986; Roll 1986; Morck, Shleifer & Vishny 1988; Bannister & Riahi-Belkaoui 1991; Firth 1991; Chatterjee 1992; Rahman & Limmack 2004; Bild, Guest & Runsten 2005; Hope & Thomas 2008; Hodgkinson & Partington 2008; Edward & Wang 2010).

Finally, this thesis adds to our understanding how acquiring firms can adapt takeover strategies, recognising acquired identifiable intangible assets and goodwill, to take into account the post-acquisition financial performance of the combined firm.

#### 5. Organisation of Thesis

The remainder of this thesis is organised as follows. Chapter 2 examines the effect of the acquisition purchase price on the recognition of identifiable intangible assets acquired in Australian business combinations over the period 1988-2008. Chapter 3 provides evidence on the association between the relative proportion of takeover premium allocated to identifiable intangible assets and goodwill, and a combined firm's post-acquisition financial performance in the Australian share market. Chapter 4 draws conclusions about the matters researched in this thesis and identifies ways in which this research could be extended further.

## Chapter 2: Is a takeover premium associated with the recognition of identifiable intangible assets?

#### **Abstract**

The objective of this chapter is to evaluate the relation between amounts recognised as identifiable intangible assets in business combinations and the takeover premiums paid by acquiring firms in the Australian share market over the period 1988-2008. Evidence is provided that there was a positive association between amounts recognised as identifiable intangible assets and acquisition premiums in the period prior to transition to IFRS in 2005. This did not persist into the period subsequent to transition. This is consistent with firms making acquisitions with larger takeover premiums also adopting accounting practices which mitigated the potential negative impacts of the acquisition on reported firm performance subsequent to the acquisition.

#### 1. Introduction

This chapter investigates the relation between amounts recognised as identifiable intangible assets in a business combination and takeover premiums paid by acquiring firms in the Australian share market over the period 1988-2008. Specifically, it has two objectives: first, to determine whether there is a positive association between identifiable intangible assets recognised in a business combination and the acquisition price paid over the period 1988-2004; and second, to investigate whether any such association has changed subsequent to the transition to IFRS.

Prior research (based largely on US data) has indicated that US firms, which employed the pooling-of-interests method (in this chapter referred to as 'the pooling method') to account for corporate acquisitions, paid a higher takeover premium than firms which employed the purchase method (e.g. Nathan 1988; Robinson & Shane 1990; Hopkins, Houston & Peters 2000; Aboody, Kasznik & Williams 2000; Ayers, Lefanowicz & Robinson 2002). The pooling method effectively allows firms to avoid the recognition of the goodwill asset on acquisition of a target and the subsequent goodwill amortisation that is required under the purchase method. As a consequence, the US evidence is consistent with pooling firms being willing to pay a higher premium to avoid having to amortise goodwill.

In Australia, the pooling method is not permitted. However, in contrast to the US, there had also been no accounting standard requiring the amortisation of identifiable

<sup>&</sup>lt;sup>1</sup> In the 1990s three Australian reporting entities participated in sanctioned breaches of this longstanding policy. These were: Brambles which "merged" with GKN; CRA which "merged" with Rio Tinto; and BHP which "merged" with Billiton. Each of these corporate combinations took place as a consequence of the creation of dual listed company ("DLC") structures. Each transaction was conditional upon receipt of regulatory approval (granted via Australian Securities and Investments Commission (ASIC) Class Order No

intangible assets until the adoption of IFRS in Australia. As a result, Australian acquiring firms have, to some degree, been potentially able to avoid goodwill amortisation by allocating higher proportions of the acquisition price to identifiable intangible assets rather than to goodwill. This chapter investigates whether Australian firms, in the pre-IFRS period, were willing to pay higher takeover premiums in return for this opportunity.

With the adoption in 2005 of IFRS, and specifically AASB 3 *Business Combinations* and AASB 138 *Intangible Ass ets*, there is no longer the requirement to amortise goodwill. Instead, Australian firms must subject both goodwill and identifiable intangible assets to an impairment test each year. Thus, firms are no longer able to treat identifiable intangible assets and goodwill differently. The second objective of this chapter is to investigate whether, subsequent to 2005, this change in accounting treatment has affected the association between identifiable intangible assets and takeover premiums in the Australian share market.

Based on a sample of 393 firms, from the years 1988-2008, this chapter provides evidence of the association between identifiable intangible assets recognised in a business combination and the acquisition price paid in a pre- and post-IFRS accounting environment. The results suggest that there is a significant positive association between the amount of the purchase price paid in a business combination, and the relative proportion of the acquisition premium allocated to identifiable intangible assets over the period 1988-2004 in the Australian share market.

98/100, dated 10 July 1998) for relief from Australian accounting standards pertaining to the acquisition accounting, the capacity to adopt UK FRS, and the capacity to report locally in US dollars. Because FRS 6 (then operative) allowed the application of "merger accounting" (effectively a pooling approach) to certain eligible transactions, each of these DLCs (Brambles GKN, BHP Billion, Rio Tinto) was accounted for using merger accounting, with no resulting goodwill recognised on acquisition. However, transactions so structured represented the exception rather than the rule.

The findings also provide evidence that the adoption of IFRS has resulted in a weaker, and insignificant positive, association between the relative proportion of the acquisition price in a business combination allocated to identifiable intangible assets, and the acquisition purchase price paid. This is consistent with acquiring firms no longer having an incentive to engage in 'goodwill avoidance' via recognised identifiable intangible assets.

In summary, the evidence obtained in this chapter is consistent with Australian firms' willingness to pay a higher premium in order to avoid goodwill when they were able to allocate more of the purchase price to identifiable intangible assets. This finding is consistent with the 'purchase versus pooling' evidence from the US. However, there is no evidence of this practice after the advent of IFRS.

The remainder of this chapter is organised as follows. Section Two briefly describes the relevant accounting regulatory requirements, discusses some related literature and develops the hypotheses studied. Section Three sets out the research design and describes the primary estimation equation employed. The sample is described in Section Four, together with some preliminary descriptive results. Section Five reports the main empirical findings, together with the results of several robustness checks. Section Six summarises and concludes the chapter.

#### 2. Institutional Background, Theory Development and Related Literature

#### 2.1 Institutional Background and Theory Development

Prior to transition to IFRS in Australia, AASB 1015 Accounting f or the Acquisition of Assets required firms to employ the purchase method when accounting for

business combinations. The purchase price had to be allocated across all assets and liabilities acquired, including identifiable intangible assets, with any balance being assigned to the goodwill asset<sup>2</sup>. Furthermore, AASB 1013 *Accounting for Go odwill* required the application of straight-line amortisation of goodwill against periodic earnings over a period not exceeding twenty years (Wines & Fergusson 1993; Day & Hartnett 2000).<sup>3</sup> In contrast, until 2005, there was no accounting standard mandating amortisation of identifiable intangible assets<sup>4</sup>. As a result, it has been claimed that a favoured technique for avoiding the earnings-dilutive consequences of goodwill amortisation was the placement of aggressive valuations on identifiable intangible assets (Walker 1989; Woolf 1989; Carlin & Finch 2007).

Consequently, Australian firms may have used identifiable intangible assets to avoid goodwill amortisation in a business combination. By allocating a higher proportion of the purchase price in a business combination to identifiable intangible assets, they would decrease the amount of goodwill to be amortised in subsequent years and thus reduce the associated 'drag' on reported earnings (e.g. Wines & Ferguson 1993; Miller 1995; Clinch 1995; Whittred, Zimmer & Taylor 2000; Carlin & Finch 2007; James, How & Verhoeven 2008).

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<sup>&</sup>lt;sup>2</sup> Goodwill, representing the excess of the cost of acquisition over the fair value of the identifiable net assets acquired, is amortised on a straight line basis over a period of 20 years during which the benefits are expected to arise.

<sup>&</sup>lt;sup>3</sup> Accounting for Goodwill (AASB 1013) was issued by the Australian Accounting Standards Board in June 1988 and was first applied to financial years ending on or after 19 June 1988. Prior to AASB 1013, Australia was characterised by a significant diversity in goodwill accounting practice because there was no regulation concerning goodwill (Gibson & Francis 1975; Carnegie & Gibson 1987; Goodwin & Harris 1991).

<sup>&</sup>lt;sup>4</sup> AASB 1021 has indicated the belief of the standard setter that intangibles have a limited life and are therefore depreciable assets once recongnised. However, there is no reference to amortisation.

This situation is similar to that in the US where it has been claimed that companies chose the pooling method in business combinations (when that method was permitted) in order to avoid the goodwill amortisation associated with the purchase method. In addition, recent research has documented that pooling firms paid a higher takeover premium in business combinations related to the goodwill amortisation avoided (e.g. Nathan 1988; Robinson & Shane 1990; Hopkins, Houston & Peters 2000; Aboody, Kasznik & Williams 2000; Ayers, Lefanowicz & Robinson 2002).

As stated earlier, the first objective of this chapter is to investigate whether, in the Australian share market over the period 1988-2004, there is a similar positive association between identifiable intangible assets recognised in a business combination and takeover premiums paid. The Australian setting provides a potential advantage (in comparison with the US) due to the relatively low cost to Australian firms (and high frequency) of employing identifiable intangible assets for 'goodwill avoidance'. In the US, the use of the pooling method required firms to structure business combination transactions to satisfy a collection of stringent requirements – most notably, consideration for the acquisition was required to consist largely of shares in the acquiring firm. The resulting dilution in the acquiring shareholders' holdings likely represented a major impediment to firms choosing the pooling method. This impediment did not exist with respect to Australian firms. In Australia, the recognition of identifiable intangible assets in a business combination is independent of the structure of the transaction. As a result, it is

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<sup>&</sup>lt;sup>5</sup> Prior empirical studies (Choi & Lee 1991; Lee & Choi 1992; Dunne & Ndubizu 1995; Cheng, Liu & Schaefer 1997) use a cross-country research design to assess whether goodwill accounting standards which impose less harsh income statement effects on bidders are associated with higher bid premiums. In doing so, prior findings are potentially muddied by institutional differences across countries. By examining only one country (i.e. Australia), this study is not subject to this problem. Australia also presents an ideal case for examining this research question because of the relatively harsher income statement effects of AASB 1013 (Carlin & Finch 2007; James, How & Verhoeven 2008).

likely that a broader range of firms in Australia may have been able to access the purported reporting benefits attached to identifiable intangible assets recognition relative to the number of pooling firms in the US.

At the beginning of 2005, Australia adopted IFRS and the above regulations were superseded by AASB 3 *Business Combinations*, AASB 136 *Impairment of Assets* and AASB 138 *Intangible Asset s*. <sup>6,7</sup> These changed the accounting rules for identifiable intangible assets and goodwill which are no longer subject to amortisation. <sup>8</sup> Instead, firms are required to conduct periodic goodwill impairment tests based on estimated fair values of reporting units and identifiable net assets. <sup>9</sup>

Importantly, the difference between the accounting treatment of goodwill and identifiable intangible assets prior to 2005 has been removed with the introduction of IFRS. If, prior to 2005, identifiable intangible assets offered an 'accounting benefit'

<sup>&</sup>lt;sup>6</sup> The essence of the new regime (in comparison to the previous regime) can be understood by reference to three overarching themes:

<sup>(</sup>a) the continuation of the mandatory application of purchase accounting to corporate acquisition transactions (embodied in AASB 3 – *Business Combinations*);

<sup>(</sup>b) the continuation of the prohibition on the recognition of internally generated goodwill and, by extension, the reversal of write-downs on purchased goodwill (embodied in AASB 136 – *Impairment of Assets*); and

<sup>(</sup>c) the abandonment of the traditional recognition and amortisation approach to accounting for goodwill, and the replacement of this approach with an impairment regime (as embodied in AASB 136 – *Impairment of Assets*) pursuant to which purchased goodwill may be held indefinitely at cost until impaired - with impairment devaluations being charged against earnings.

<sup>&</sup>lt;sup>7</sup> Australia decided to follow the International Accounting Standards Board (IASB) set of accounting standards with effect from 1 January 2005. As a result, AASB 1013 no longer exists. It has been replaced by AASB 3 *Business Combinations*, which is the Australian version of IFRS3-*Business Combinations* (Leo et al. 2005, p.12). Systematic amortisation of the capitalised acquired goodwill balance is not required by AASB3 (Leo et al. 2005, p.262).

<sup>&</sup>lt;sup>8</sup> Under the new accounting standards, an identifiable intangible asset with an indefinite life (e.g. a trademark) is, similarly to acquired goodwill, not amortised, but is assessed for impairment by comparison of its estimated fair value with the carrying book value. By contrast, identifiable intangible assets with finite lives (e.g. developed technologies and customer bases) are subject to amortisation.

<sup>&</sup>lt;sup>9</sup> In conducting the impairment tests, firms first compare the book value and estimated fair value of each reporting unit to identify potential impairment. If the book value of a reporting unit exceeds its fair value, firms should then estimate the fair value of identifiable assets and liabilities and compare it to the unit's fair value. The implied fair value of goodwill is thus the excess of the fair value of the reporting unit over the amounts assigned to its assets and liabilities. If the book value of goodwill exceeds its implied fair value, goodwill impairment should be recognised.

because of avoidance of goodwill amortisation, they no longer do so. The second objective of this chapter is to test empirically whether, subsequent to 2005, the new accounting treatments have affected the association between takeover premiums paid and the amount of identifiable intangible assets recognised in a business combination.

In summary, this chapter investigates two specific hypotheses:

 $H_1$ : Prior to IFRS adoption, identifiable intangible assets recognised in a bu siness combination are positively associated with takeover premiums paid in the Australian share market; and

*H*<sub>2</sub>: Subsequent to IFRS ado ption, id entifiable intangible assets recognised in a business combination are less positively associated with takeover premiums paid in the Australian share market.

#### 2.2 Related Literature

Gagnon (1967) was the first to test an income maximisation hypothesis as a decisive tool for predicting managers' choice of the acquisition accounting method used in business combinations. Based on a sample of US firms, he predicted and found that when the difference between the price paid by an acquiring firm and the book value of assets acquired is positive, managers will be more likely to choose the pooling method. By contrast, managers are more likely to choose the purchase method when there is a negative balance.

If a business combination is structured to obtain significant economic benefits from the managers' choice of the purchase or pooling methods, the benefits may then be reflected in the takeover purchase price paid for target firms. This proposition is consistent with the empirical evidence (e.g. Jensen & Ruback 1983), generally showing that target shareholders can benefit from business combinations. For example, Jensen and Ruback (1983) and Ayers, Lefanowicz and Robinson (2000) document target shareholders' ability to capture a large portion of takeover-related benefits via negotiations. The reason is that target shareholders have an 'upper hand' in bargaining power related to a business combination. Consequently, it is likely that any perceived goodwill avoidance benefits to the acquiring firm in a business combination will be captured by shareholders of the target firm via a higher premium.

In Australia, James, How and Verhoeven (2008) use a sample of 248 Australian takeovers involving listed targets over the period 1981-2000 to test whether the strength of the relation, between takeover premiums paid and acquired goodwill, changes after the passage of approved accounting standard AASB 1013 in 1998. They found that the strength of the relation depends on the variety of accounting policy options available to an acquiring firm's management on acquisition. They also found little evidence that AASB 1013 results in a significant reduction in the mean takeover premiums or in the mean acquired goodwill in a business combination.

This chapter extends the research in James, How and Verhoeven (2008) to investigate whether takeover premiums paid are associated with the proportion of identifiable intangible assets recognised in an acquisition, and whether this association has diminished with the adoption of IFRS in 2005.

#### 3. Research Design

This section describes the procedures used to investigate the association between takeover premiums and identifiable intangible assets recognised in business combinations.

#### 3.1 Empirical Model

Two basic regression models are employed in this chapter. Model (1) is used to examine the relation between recognised identifiable intangible assets in a business combination and takeover premiums paid by acquiring firms in each of the pre- and post-IFRS adoption periods separately. Model (2) is employed to investigate in more detail the influence of a pre- and post-IFRS accounting environment for takeovers by including a dummy variable (IFRS) and an interaction term ( $IIA_{it} * IFRS_{it}$ )<sup>10</sup>.

Model (1):

$$\begin{split} PREM_{it} = \ \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \alpha_3 TNI_{it} + \alpha_4 LEV_{it} + \alpha_5 TOE_{it} + \alpha_6 TER_{it} \\ + \alpha_7 CBID_{it} + \alpha_8 RELSZ_{it} + \alpha_9 MTB_{it} + \alpha_{10} DEFMES_{it} + \alpha_{11} LIQ_{it} + \varepsilon_{it} \end{split}$$
 Model (2):

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<sup>&</sup>lt;sup>10</sup> Estimating model (1) separately for each period allows the association between the takeover premium and all RHS variables to differ between periods. In contrast, model (2) constrains the coefficients on control variables, as well as the residual variance, to be equal across periods. Model (2) will provide more efficient estimates, and thus greater statistical power, if the assumed constraints are reasonable, but will provide less reliable estimates if not.

$$\begin{split} PREM_{it} = \ \beta_0 + \beta_1 IIA_{it} + \beta_2 OTHER_{it} + \beta_3 IFRS_{it} + \beta_4 IIA_{it} * IFRS_{it} + \beta_5 TNI_{it} \\ + \beta_6 LEV_{it} + \beta_7 TOE_{it} + \beta_8 TER_{it} + \beta_9 CBID_{it} + \beta_{10} RELSZ_{it} \\ + \beta_{11} MTB_{it} + \beta_{12} DEFMES_{it} + \beta_{13} LIQ_{it} + \varepsilon_{it} \end{split}$$

where,

Takeover premium paid for the target firm calculated as the takeover  $PREM_{it}$ <sup>11</sup> offer price less the target's market value at the end of the month, which is 2 months prior to the takeover effective month, deflated by the acquiring firm's market value at the end of the month, 2 months prior to the takeover effective month

The proportion of the acquisition price allocated to identifiable intangible  $IIA_{it}$ assets

OTHER<sub>it</sub> The amount of the acquisition price allocated to other assets and liabilities rather than identifiable intangible assets and goodwill by the

acquiring firm in the year of a business combination, deflated by the acquiring firm's market value at the end of the month, 2 months prior to

the takeover effective month

Indicator variable for IFRS adoption; one if the takeover effectiveness IFRS<sub>it</sub>

month is in the post-IFRS period, zero otherwise

 $TNI_{it}$ Target earnings in the year of the takeover prior to the effective date of a

> business combination, deflated by the acquiring firm's market value at the end of the month, 2 months prior to the takeover effective month

 $LEV_{it}$ Ratio of the target's long-term debt to the target's market value at the end

of the month, 2 months prior to the takeover effective month

 $TOE_{it}$ Bidder's pre-takeover ownership percentage in the target firm  $TER_{it}$ Bidder's post-takeover ownership percentage in the target firm One, if there was a competing bidder for the target; zero otherwise  $CBID_{it}$ 

Ratio of the target's market value to the bidder's market value at the end  $RELSZ_{it}$ 

of the month, 2 months prior to the takeover effective month

 $MKTBK_{it}$ Ratio of the target's market value at the end of the month, 2 months prior

to the takeover effective month to the target's book value of equity

DEFMES<sub>it</sub> : One if the target has defensive measures in place; zero otherwise

 $LIQ_{it}$ Ratio of the target's cash, short-term investments, and accounts

receivable to the target's market value at the end of the month, 2 months

prior to the takeover effective month

The focus of this chapter is on (i) whether there is a positive association between identifiable intangible assets recognised in a business combination and the acquisition

<sup>&</sup>lt;sup>11</sup> Premium (purchase price) – fair market value of identifiable intangible assets and liabilities acquired = goodwill arising from the business combination.

price paid in the pre-IFRS adoption period, and (ii) whether any such association has changed subsequent to IFRS adoption. The first effect is captured by  $\alpha_1$  in model (1), while the second effect is captured by differences in  $\alpha_1$  and  $\beta_1$  between the pre- and post-IFRS periods, and in Models (2) by  $\beta_4$ .

Based on the discussion in the previous sections, if firms employ identifiable intangible assets as a goodwill avoidance mechanism, and are willing to pay for this result, the coefficient of  $\alpha_1$  in Model (1) will be positive in the pre-IFRS period. Further, if the changed recognition and measurements relating to identifiable intangible assets and goodwill with the implementation of the new accounting rules lead acquiring firms not to engage in 'goodwill avoidance', such association will be less positive in the post-IFRS period in Model (1), and the estimated coefficient  $\beta_4$  in Model (2) will be negative.

#### 3.2 Control Variables

A large body of literature exists (e.g. Jensen & Ruback 1983; Morck, Shliefer & Vishny 1988; Jensen 1988; Aboody, Kasznik & Williams 2000; Ayers, Lefanowicz & Robinson 2002) investigating various factors likely to be associated with takeover premiums. A number of these factors are included in both regression models as control variables. The control variables represent both accounting and non-accounting factors potentially associated with takeover premiums, as described below.

#### 3.2.1 Control Variables - accounting factors

Financial statements are a crucial source of information for acquisition decisions (e.g. Kothari 2001; Bushman & Smith 2001; Francis, Schipper & Vincent 2003; Koller,

Goedhart & Wessels 2005; Bargeron et al. 2008; Raman, Shivakumar & Tamayo 2008; Eckbo 2008). Reported liabilities and assets, including intangible assets, conveying useful and publicly available information to market participants have been documented in numerous previous studies (e.g. Wyatt 2005; Matolcsy & Wyatt 2006; Ritter & Wells 2006; Martynova, Oosting & Renneboog 2006; Kohlbeck & Warfield 2007; Jones 2007; Anagnostopoulou 2009; Chalmers, Clinch & Godfrey 2008; Chalmers, Clinch & Godfrey 2009; Chalmers et al. 2010).  $OTHER_{it}$ , is a summary variable reflecting the net (tangible) assets and liabilities acquired in the takeover; these potentially reflect possible sources of 'value added' that might also be reflected in the takeover premium. It also acts as a crude control for scale/size. Thus, the variable  $OTHER_{it}$ , is included in the regressions to be reflected in the premium.

Previous studies (e.g. Ayers, Lefanowicz & Robinson 2002) also suggest that the takeover premium will be related to the target firm's earnings prior to the takeover. Specifically, they note that higher earnings of target firms prior to the date of a business combination are likely to make the target more attractive to acquirers, resulting in potentially higher takeover premiums. As a result the target's net income  $TNI_{it}$ , is included as a control variable in the regressions.

Aboody, Kasznik and Williams (2000) and Ayers, Lefanowicz and Robinson (2002) argue that recognising the step-up in target book value under the purchase method (compared with the pooling method) would be beneficial for acquisitions of highly leveraged targets. This is because of the reduction in the leverage ratio of the combined firm, which could affect the will of bidders to pay higher takeover premiums to the target. Similarly, with regard to Australian firms, high leverage could provide an incentive for

acquiring firms to allocate more of the acquisition purchase price to non-amortisable intangible assets in order to 'strengthen' the post-acquisition balance sheet. This represents an alternative 'accounting benefit' which might be more important to highly leveraged firms. As a result,  $LEV_{it}$ , the long-term debt of the target firm deflated by the target's market value at the end of the month, 2 months prior to the takeover effective month, is included as a control variable in the regressions.

#### 3.2.2 Control Variables - non-accounting factors

Previous research (e.g. Robinson & Shane 1990; Bugeja & Walter 1995; Ayers, Lefanowicz & Robinson 2002) documents that the pre-takeover ownership of bidding firms ('toehold' ownership or ' $TOE_{it}$ ') may be inversely associated with takeover premiums paid, because the toehold increases the bargaining power of the bidding firm. Where the bidder has a large pre-takeover ownership, the pre-takeover share price would have factored in the probability of a future bid by a substantial shareholder. Consequently, the resulting percentage takeover premium, when it is paid, will be lower. A bidding firm having a large initial holding in the target firm also means that fewer shares would be held by rivals prior to the takeover. Therefore, a higher takeover premium paid would not be needed to buy out rivals or recalcitrant minorities. Thus, the amount of a bidder's initial ownership of target voting shares is an important control variable.

On the other hand, Bradley, Desai and Kim (1988) suggest that a bidder's post-takeover ownership (terminal ownership or ' $TER_{it}$ ') is positively associated with takeover premiums paid, because the demand curve for the target shares slopes upward.

Hence, both the levels of pre-takeover ownership,  $TOE_{it}$ , and post-takeover ownership,  $TER_{it}$ , are included as control variables in the regression models, in order to gain control for the effect of bidders' pre- and post-takeover ownership on the takeover premiums paid in the takeover announcement.

This chapter includes an indicator variable for competing bids  $(CBID_{it})$  to capture the condition of the market for corporate control at the time of the takeover announcement. As suggested by Ayers, Lefanowicz and Robinson (2002); if there are competing bids, a higher takeover premium is likely.

Prior research (e.g. Robinson & Shane 1990; Billett & Ryngaert 1997) has documented a negative association between the relative size of the target and the takeover premium paid. Billett and Ryngaert (1997) interpret this finding as indicating either that relatively larger bidder firms have more opportunities to take advantage of target assets, or that bidders may tend to overpay for relatively small business combinations. Moreover, Gort and Hogarty (1970) reason that the larger the target relative to the bidder, the greater the risk of serious earnings dilution if the target performs poorly. They predict, and find, that relatively larger targets in their sample receive lower takeover premiums. In a much larger sample of business combinations in the UK between 1955 and 1985, Franks & Harris (1989) also find a significant inverse relation between takeover premiums paid and the relative size of the target. As a result RELSZ<sub>it</sub> is included in the regression models, estimated as the ratio of the target's market value to the combining firm's market value at the end of the month, 2 months prior to the takeover effective month.

A relatively low pre-takeover ratio of market-to-book value of the target equity may indicate target management inefficiency. Replacing inefficient target management is one commonly cited source of potential benefits from a business combination (e.g. Jensen & Ruback 1983; Morck, Shleifer & Vishny 1988; Jensen 1988). Nathan<sup>12</sup> (1988) points out that the sign and size of the differential are also highly correlated with the pre-takeover ratio of the market-to-book value of the target's equity. He provides empirical evidence of an inverse relation between that ratio and the takeover premium paid for a target's shares (also see Walkling & Edmister 1985). Thus the target's pre-takeover market-to-book ratio is included as an additional control variable in the regression models.

Jennings and Mazzeo (1993) report that firms pay higher premiums for takeovers opposed by incumbent managers. Similarly, Cotter and Zenner (1994) find that the probability of management opposition is inversely related to the changes in managerial wealth associated with a pending takeover. Hence, bidding firms may secure managerial cooperation, either by paying higher takeover premiums or by giving managers preferential treatment. Additionally, agency theory predicts that higher levels of managerial ownership can better align the interests of shareholders and managers. The pre-takeover share price of high agency cost firms is low. Hence, all else being equal, the takeover premiums paid are expected to be high, reflecting the fact that the firm's value is most likely to be increased under the bidder's management as agency costs are

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<sup>&</sup>lt;sup>12</sup> Nathan (1988) attempted to test the relation between the amount of the differential and the premiums paid in acquisitions accounted for as poolings. He found a negative association, which may mean that management inefficiency outweighs accounting method in explaining bid premiums.

progressively reduced. The US evidence supports this (e.g. Ayers, Lefanowicz & Robinson 2002), but the Australian evidence does not (Bugeja & Walter 1995).

Thus, the variable DEFMES<sub>it</sub> is included in the regression model, representing the ability of target managers to successfully oppose a takeover announcement. The variable *DEFMES* is related to securing management cooperation in order to gain control of takeover premium paid (independent of any takeover premiums paid to a target firm using 'accounting benefit' associated with goodwill amortisation avoidance). This is an indicator variable, defined as "One" for takeovers in which the target's incumbent managers can utilise a share or asset lockup to defeat an unfriendly takeover bid; or otherwise "Zero".

Finally, this chapter employs an additional control variable ( $LIQ_{it}$ ) which may be related to takeover premiums paid. The liquidity ( $LIQ_{it}$ ) is included to represent the efficiency of incumbent managers and the financial position of the target firm. Lang, Stulz & Walkling (1989) and Servaes (1991) posit that shareholders of poorly performing targets are more likely to receive higher takeover premiums from bidders because of the potential to utilise target assets more efficiently. Jensen (1986) suggested that poorly performing firms would have excess liquidity.

Hence, takeover premiums paid may be positively related to liquidity. However, Billett and Ryngaert (1997) disagree with the conventional wisdom regarding liquidity. They argue that takeover premiums paid should be negatively related to the target's liquidity – specifically, that the lower the ratio of target financial assets to total target assets, the greater the opportunity will be for the bidder to introduce value-increasing changes in non-financial assets. Given the inconsistency in the literature, no directional

expectations regarding the influence of target liquidity on takeover premiums paid are made in this chapter.

#### 4. Sample selection and descriptive statistics

#### 4.1 Data collection

The sample for this chapter was collected from a complete listing of Australian takeovers for the period 1 January 1988 to 31 December 2008, together with data necessary to calculate variables employed. Takeover details were obtained from the SDC Platinum database, including takeover announcements and effective dates; names of acquiring and target firms; and the percentage of shares held by acquirers prior to, and after, takeover.

Only publicly listed Australian firms are included in the sample data; this is to ensure the availability of relevant data and because the 'goodwill avoidance' basis of this chapter requires firms to be subject to Australian accounting standards. Financial statement information was sourced from Huntley's Aspect and the Connect 4 databases.

The offer price, identifiable intangible assets, and all remaining liabilities and assets of an acquired entity, were hand-collected from the business acquired footnote in the acquirer's immediate post-acquisition Statement of Cash Flows. The share market data were extracted from the Australian Graduate School of Management (AGSM) CRIF price relatives database.

This final sample includes only those takeovers where the acquirer ended up with more than a 50 per cent holding after a successful bid. A total of 393 firms with available data met all of the selection criteria.<sup>13</sup>

#### 4.2 Sample selection and description

Table 2.1 reports details of the sample selection process. Sample firms for this chapter are, in the first instance, identified from SDC (2009) which is the source of takeover data. The sample omits firms having unsuccessful takeovers (8,499 firms) and those not using Australian accounting standards (7,349 firms).

Also omitted are firms which held more than a 50 per cent holding in the target prior to a business combination, or ended up with less than 50 per cent ownership after an effective takeover (3,164 firms). The sample further omits firms with missing data, such as a competitor's information (4,581 firms), defensive strategy (3,928 firms), and suggestions from directors and experts (203 firms). These factors, together with missing annual reports, reduced the sample to 487 useable firms. Those were then matched with sharemarket data from CRIF and together they identify a sample of 400 firms.

Finally, the 400 firms were reduced to 393 for model tests to reduce the influence of outliers. Of these 393 firms, 124 reported non-zero acquired identifiable intangibles, while 206 reported non-zero goodwill in their annual report(s).

none of them were subject to a post-takeover contingency.

<sup>&</sup>lt;sup>13</sup> A bidding firm may pay a higher takeover premium, independently of its desire to use 'accounting benefit' associated with goodwill amortisation avoidance, if the takeover is not subject to a post-takeover contingency - such as the final takeover premium being contingent upon the bidding firm's post-takeover share price. To ensure that the analyses in this chapter are not confounded by the effect of contingencies on takeover offer price, the terms of all sample takeovers used in this chapter were checked. It is verified that

Table 2.2 provides a distribution of the sample by the acquisition year<sup>14</sup> (Panel A) and the acquiring firm's industry<sup>15</sup> (Panel B). The 1988-2008 sample period is divided into two sub-periods<sup>16</sup> intended to reflect the differing accounting standards environments before and after the introduction of IFRS in Australia. Panel A reveals higher numbers of acquisitions in the years 2007, 37 (9.41 per cent); 2000 and 2006, 34 (8.65 per cent); 1996, 28 (7.12 per cent); and 2005, 27 (6.87 per cent). By contrast, there were very few takeover transactions in the years 1988, 1 (0.25 per cent); 1992, 6 (1.53 per cent); 1990 and 1991, 7 (1.78 per cent); and 1989, 8 (2.04 per cent). Panel B indicates that the sample spans a wide range of industries, but more than half of acquiring firms are represented by only three sectors, i.e. metal and mining (27.23 per cent), diversified financials (16.79 per cent), and commercial services and supplies (8.14 per cent).

#### 4.3 Descriptive statistics

Table 2.3 presents some descriptive statistics accounting for variables of interest to this chapter. Panel A is based upon a sample of acquisitions before variables are winsorised. Analysis of these variables indicates that one or more of them contain extreme values.<sup>17</sup> For example, the maximum and minimum values of the *PREM* variable

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<sup>&</sup>lt;sup>14</sup> The calendar years denote the year in which the takeover effectiveness was made.

<sup>&</sup>lt;sup>15</sup> The industry sectors are based on industry classifications provided in the CRIF database.

<sup>&</sup>lt;sup>16</sup> The distinction between these two sub-periods is based on whether the acquisition transactions are subject to IFRS accounting standards or not. The criterion used in this chapter is if the effective date falls in a fiscal year which is subject to IFRS environment.

<sup>&</sup>lt;sup>17</sup> Reasons for the most extreme values of the *PREM*, *IIA* and *OTHER* variables are:

<sup>(1)</sup> acquiring firms have issued considerable shares as the acquisition premium in a business combination,

<sup>(2)</sup> an acquiring firm's market capitalisation is relatively smaller than the acquisition premium,

<sup>(3)</sup> the principal activity of the economic entity is to focus on research and development investment, and

are 416.432 and -58.728 for both pre-IFRS adoption period and full sample period. Corresponding values for the IFRS adoption period are 75.940 and -9.019 respectively. Also, the skewness in variable distributions contributes to material differences between means and medians. These suggest that there is a small amount of potential noise contained in the observations. The issue is addressed by winsorising all variables at the 5<sup>th</sup> and 95<sup>th</sup> percentiles, as well as removal of observations with regression residuals more than three standard deviations from zero; this is reported in Panel B.

To provide insights into the generalisability of results, it was necessary to consider separately the period prior to IFRS adoption and that subsequent to IFRS adoption. In the pre-IFRS period, the acquiring firm on average offered, as against the median takeover premium paid of 1.0 per cent, a takeover premium (*PREM*) in excess of 25.8 per cent over and above its own share price as at the end of the month, 2 months prior to the takeover effective month. Corresponding values for the IFRS adoption period are 4.1 per cent and 21.4 per cent, while for the full sample period they are 1.6 per cent and 23.9 per cent respectively.

(4) there was some uncertain and unavoidable expenditure prior to the beginning of the economic entity's principal activity.

#### For example:

- (1) On 03 June 1992, Discovery Petroleum N.L issued 25,724,899 shares at a total cost of \$583,157,000 to complete its acquisition of Arrow Petroleum Ltd.
- (2) On 03 December 1996, Rancoo Limited acquired 58 per cent of Virax Pty Ltd. This transaction implies a market value of the holding of \$342,144,000. The principal activity of the economic entity during the year was biopharmaceutical research and development investment.
- (3) On 19 April 2001, St. Barbara Mines Limited acquired 87.7 per cent of the issued share capital of Taipan Resources NL. After the acquisition date Taipan called in 0.5 cents on all partly paid shares held by St Barbara, bringing the total cost of the investment (at 30 June 2001) to \$20,558,266. The acquisition premium attributed to Exploration Expenditure is \$16,356,094. The ratio of Exploration Expenditure to the acquisition premium is 0.8.

The market capitalisation of these three acquiring firms at the end of the month, 2 months prior to the takeover effective month are 2,310,000, 811362.5 and 3,703,708, respectively.

The mean (median) ratio of recognised identifiable intangible assets to the acquisition price in a business combination, is 0.106 (0.000) in the pre-IFRS period, 0.110 (0.000) in the post-IFRS period and 0.106 (0.000) in the full sample period. Mean (median) value of the  $IIA_{it} * IFRS_{it}$  interaction variable is 0.024 (0.000) for the full sample period.

Table 2.4 presents the correlation matrix for the dependent and independent variables used in this chapter for the full sample period.  $PREM_{it}$ , as expected, is positively correlated with the independent variable  $IIA_{it}$ . This finding is consistent with the predictions that the relative proportion of the acquisition price allocated to identifiable intangible assets is an important characteristic of an acquiring firm's willingness to pay a higher acquisition price to a target firm for the 'accounting benefit' of goodwill amortisation avoidance.

The relations between the independent variables are consistent with the description above, and with expectations. In general, the control variables (and other RHS variables) do not exhibit high correlation, so multicollinearity is unlikely to be an issue in the following regression analyses.

# 5. Empirical results

Table 2.5 presents summary statistics from estimating Model 1 for the periods prior to and subsequent to IFRS adoption, and Model 2 for the full sample period. All results are based on takeover samples where all variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles and where observations with regression residual more than three standard deviations from zero are removed.

5.1 The association between the relative allocation of the acquisition price to identifiable intangible assets and acquisition premiums prior to the adoption of IFRS

Initially, focus is placed on the association between the recognition of identifiable intangible assets and the acquisition price paid in a business combination prior to the adoption of IFRS in Australia (Hypothesis 1). The column for the pre-IFRS period shown in Table 2.5 presents the results of the primary tests for the first hypothesis. Coefficient estimates support the following conclusions.

First, the estimated coefficient for  $IIA_{it}$  is positive and statistically significant at the 1 per cent level ( $\alpha_1 = 0.551$ , t-statistic = 6.040, p < 0.01). This evidence strongly supports Hypothesis 1, suggesting that the amount of the purchase price paid in a business combination is significantly and positively associated with the relative proportion of the acquisition premium allocated to identifiable intangible assets in the Australian share market over the period 1988-2004.

This finding is consistent with the empirical results of prior US studies (e.g. Nathan 1988; Robinson & Shane 1990; Hopkins, Houston & Peters 2000; Aboody, Kasznik & Williams 2000; Ayers, Lefanowicz & Robinson 2002), indicating that acquiring firms were generally willing to pay a higher acquisition premium to a target which had recognised more identifiable intangible assets than goodwill. This results from the former being exempted from amortisation – while under the purchase method, goodwill was subject to a subsequent 'drag' on earnings<sup>18</sup>.

<sup>&</sup>lt;sup>18</sup> Prior Australian studies (e.g. Wines & Ferguson 1993; Miller 1995; Clinch 1995; Whittred, Zimmer & Taylor 2000; Carlin & Finch 2007; James, How & Verhoeven 2008) have documented that allocating a higher proportion of the purchase price to identifiable intangible assets in a business combination would

Second, the column of the pre-IFRS period in Table 2.5 also presents the coefficient estimate of the  $OTHER_{it}$  variable (a control variable of the accounting factor) with a positive sign, as well as being statistically significant at conventional levels ( $\alpha_2$  = 1.166, t-statistic = 49.040, p<0.01). This result suggests that the reported liabilities and assets (other than identifiable intangible assets and goodwill) conveyed useful publicly available information to market participants prior to the 2005 Australian adoption of IFRS (e.g. Wyatt 2005; Matolcsy & Wyatt 2006; Ritter & Wells 2006; Kohlbeck & Warfield 2007; Jones 2007; Anagnostopoulou 2009; Chalmers, Clinch & Godfrey 2008; Chalmers, Clinch & Godfrey 2009; Chalmers et al. 2010). Thus, each proportion of the acquisition price allocated to a target's assets and liabilities should be considered as a factor to be associated with the acquisition price in an attempted business combination.

In connection with the remaining control variables of the accounting factor, the estimated coefficient for  $TNI_{it}$  is positive and significant at the 5 per cent levels in the acquisition price across sample firms. This finding, consistent with previous studies (e.g. Ayers, Lefanowicz & Robinson 2002), provides strong support that a target firm's earnings in the year of acquisition are an important consideration in determining the acquisition price.

Furthermore, with respect to the  $LEV_{it}$  variable in the regression model, the estimated coefficient is negative but insignificant, suggesting that different target firm leverages do not significantly explain the acquisition price for Australian firms prior to the adoption of IFRS. A number of previous US studies support this finding with many authors reporting an insignificant association between the acquisition premium and

decrease the amount of goodwill to be amortised in subsequent years and then reduce the associated 'drag' on reported earnings.

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leverage (e.g. Robinson & Shane 1990; Comment, Jarrell & Schwert 1995; Schwert 2000; Aboody, Kasznik & Williams 2000; Ayers, Lefanowicz & Robinson 2002).

Of the control variables of the non-accounting factor, the estimated coefficients for both the  $TOE_{it}$  and  $TER_{it}$  variables are positive and insignificant from zero at conventional levels, suggesting that the acquirer's pre- and post-takeover announcement holdings of the target's common share do not significantly explain acquisition premiums for the sample acquisitions in this chapter. Further, the estimated coefficients for  $CBID_{it}$  and  $DEFMES_{it}$  are also not significantly different from zero. This result perhaps reflects the small number of acquisitions with these attributes; 22 and 28 respectively.

The negative sign and the significant estimated coefficient for  $RELSZ_{it}$  are consistent with the findings of prior studies (e.g. Gort & Hogarty 1970; Franks & Harris 1989; Robinson & Shane 1990; Billett & Ryngaert 1997). They are also consistent with the prediction in this chapter and the explanations that: (i) the smaller the acquirer relative to the target, the fewer opportunities to take advantage of the target's assets there will be; (ii) relatively smaller target firms are more likely to command a higher acquisition price in a business combination; and (iii) where the target is a poorly performing firm at the time of acquisition, the probability of serious earnings dilution of the combined firm has been factored into a relatively smaller acquisition price.

Finally, the estimated coefficient of  $MKTBK_{it}$ , yields a positive and statistically significant estimate for the same sample firms, indicating target management inefficiency. In addition, the positive sign and the significant estimated coefficient for  $LIQ_{it}$  are consistent with the findings of prior studies (e.g. Lang, Stulz & Walkling 1989; Servaes 1991), suggesting poorly performing targets. This evidence indicates that

these constructs are significant determinants of the acquisition price paid in the pre-IFRS period.

5.2 The association between the relative proportion of the acquisition price allocated to identifiable intangible assets and acquisition premiums s ubsequent to the adoption of IFRS

Table 2.5 also provides summary results for regressions relating to Models (1) and (2) estimated over the post-IFRS period and the full sample period. These results support a basis for causality in the implementation of the new accounting rules relating to identifiable intangible assets and goodwill put into effect by the adoption of Australian Accounting Standard AASB 3 *Business Combinations* and AASB 136 *Im pairment of Assets*, as part of the harmonisation of Australian Accounting Standards to IFRS in 2005.<sup>19</sup>

Initially regression Model (1) is also run for the post-IFRS period; this uses the same variables to investigate whether the association between the acquisition premiums paid and the relative proportion of the purchase price allocated to identifiable intangible assets in a business combination differs from that reported in the pre-IFRS period. In the column of the post-IFRS period, the estimated coefficient for IIA is not statistically significant at conventional levels ( $\alpha_1 = 0.196$ , t-statistic = 1.310, p = 0.194) – and it is smaller than that reported in the pre-IFRS period.

The primary interest of this chapter is in the estimated coefficient on the interaction between  $IIA_{it}$  and  $IFRS_{it}$ ,  $\beta_4$ , in Model (2). This is because the coefficient

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<sup>&</sup>lt;sup>19</sup> Under the new accounting standards, firms are required to conduct impairment testing of both goodwill and identifiable intangible assets rather than systematic amortisation.

reflects any change in the association between the relative proportion of the acquisition price allocated to identifiable intangible assets, and the acquisition premium paid subsequent to the adoption of IFRS (Hypothesis 2). In the column of the full sample period, the estimated coefficient on  $\beta_4$  is statistically significant and negative at the 5 per cent level ( $\beta_4$  = -0.363, t-statistic = -2.070, p < 0.05). This finding is consistent with the proposition that adoption of IFRS resulted in a weaker positive association (in a business combination) between the purchase price, and a higher proportion of the acquisition price being allocated to identifiable intangible assets. This evidence also supports the prediction that, within the implementation of the new accounting rules, firms appear to have no incentive to engage in 'goodwill avoidance' by utilising recognised identifiable intangible assets.

With regard to the  $OTHER_{it}$  variable, as in the pre-IFRS period, the estimated coefficient yields a positive and statistically significant difference from zero at conventional levels. The result indicates the relative proportions of acquisition premiums allocated to liabilities and assets, rather than identifiable intangible assets, and goodwill remains a significant factor associated with the purchase price in a business combination during the post-IFRS period.

In addition, consistent with the result reported in the pre-IFRS period, the estimated coefficients of  $TNI_{it}$  and  $RELSZ_{it}$  each yield a statistically significant estimate at conventional levels. Nevertheless, compared with the pre-IFRS result, both the percentage of shares held by acquiring firms subsequent to acquisition and the competing bids appear to be weaker. This is because the estimated coefficients for both  $TER_{it}$  and  $CBID_{it}$  are negative in the post-IFRS period. Also, both the pre-takeover ratio of market-

to-book value of the target equity and the target liquidity appear to be unrelated to the acquisition price; the estimated coefficients for  $MKTBK_{it}$  and  $LIQ_{it}$  are insignificantly different from zero for the post-IFRS adoption period. These findings indicate that IFRS adoption is linked to a weaker association between these four characteristics ( $TER_{it}$ ,  $CBID_{it}$ ,  $MKTBK_{it}$  and  $LIQ_{it}$ ) and the acquisition premium. Finally, the results relating to the remaining control variables are not qualitatively different than those reported in the pre-IFRS period.

Table 2.6 separates all takeover samples into two sub-groups; namely, mining firms and all others. As expected, the results in Table 2.6 are strongly consistent with those reported in Table 2.5. The estimated coefficients on IIA are statistically significant and positive at the 1 per cent level across these two broad groups of firms in the pre-IFRS period. Similarly, groups in the post-IFRS period do not exhibit any significant coefficient. In the column of the full sample period, the estimated coefficient on the interaction term ( $IIA_{it} * IFRS_{it}$ ) is negative and significant for the sub-group of mining firms. However, contrary to prior expectations, regression (2) does not exhibit a statistically significant  $\beta_4$  coefficient for the subgroup of all other firms.

In summary, there is strong evidence of a positive association between identifiable intangible assets recognised in a business combination and the acquisition price paid prior to the adoption of IFRS in Australia (Hypothesis 1). This finding suggests that acquiring firms were willing to pay a higher acquisition price for the 'accounting benefit' of goodwill amortisation avoidance in order to reduce the subsequent 'drag' on reported earnings.

Also, the evidence supports the proposition that the association between the recognition of identifiable intangible assets and acquisition premiums differs across periods of diverse regulation of the accounting for identifiable intangible assets and goodwill subsequent to 2005 in the Australian share market (Hypothesis 2). This finding indicates that IFRS adoption removed firms' incentive to engage in 'goodwill avoidance' by means of recognising identifiable intangible assets.

# 5.3 Additional analyses - Robustness of results

During the course of this chapter a number of issues were identified as requiring further investigation. Some issues relate to the sample firms included and their possible impact on results, while others relate to research design. The sensitivity of results to these issues is discussed in this section.

# 5.3.1 Windows of overlap

Consideration was given to the possibility of dependence across residuals in the regressions. <sup>20</sup> Table 2.7 summarises identification of takeover samples in which regression observations have overlapping measurement periods for the premium (LHS) variable; 57 were observed, 14.25 per cent of all samples. Accordingly, all subsequent tests were re-run with selected data sets excluding such firms. Also, in order to avoid a biased assessment of the relation between main variables, a dummy variable for the

 $<sup>^{20}</sup>$  For example, in the pre-IFRS regressions there is an overlap between the time-periods over which the LHS variable (*PREM*) is calculated (from two months prior to the effective date in a business combination). There is a potential for correlation.

recognition of identifiable intangible assets (IIA\_Dummy<sub>it</sub><sup>21</sup>) is included for estimating Models (3) and (4). Results obtained from these sensitivities are presented in the appendices.

Appendix, Table 2.A.5 provides summary regression statistics from estimating Models (1), (2), (3) and (4), based on all selected data sets.<sup>22</sup> Consistent with results reported in Table 2.5, the estimated coefficient for  $IIA_{it}$  is positive, and statistically and significantly different from zero at conventional levels in the pre-IFRS and full sample periods, but is not significant in the post-IFRS period. Also, Model (2) yields a negative and statistically significant estimate for the coefficient on the interaction between IIAit and  $IFRS_{it}$ ,  $\beta_4$ .

Further, the coefficient for identifiable intangible assets is statistically significant for both the pre-IFRS and full sample periods. Therefore, the results are robust to this additional control.

#### 5.3.2 Extreme observations

Attention was also given to the possibility that results obtained from the investigation might be affected by extreme observations. This chapter repeats tests on the selected sample's variables winsorised at both the 1<sup>st</sup> and 99<sup>th</sup> percentiles (Appendix 2.B), as well as 5<sup>th</sup> and 95<sup>th</sup> percentiles (Appendix 2.C).<sup>23</sup>

<sup>&</sup>lt;sup>21</sup> Indicator variable for identifiable intangible assets allocations; One if the amount is more than zero, Zero

<sup>&</sup>lt;sup>22</sup> Appendix 2.A provides details of full results for these sub-samples in the separate tables.

<sup>23</sup> In detailed separate tables, Appendix 2.B and Appendix 2.C provide results for sub-samples containing firms winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles (Appendix 2.B), and the 5<sup>th</sup> and 95<sup>th</sup> percentiles (Appendix 2.C).

Table 2.B.3 provides summary regression results based on the selected samples winsorised at  $1^{st}$  and  $99^{th}$  percentiles. No model exhibits a statistically significant estimate on  $IIA_{it}$  coefficient for the sub-periods.

Table 2.C.3 provides summary OLS regression results for the selected samples winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles. Despite results being consistent with those reported in Table 2.5 for the estimated coefficient on  $IIA_{it}$  in Models (1) and (2), the estimated coefficient for the interaction between  $IIA_{it}$  and  $IFRS_{it}$  is not statistically significant in Model (2). Also, Models (3) and (4) do not exhibit a significant estimate for coefficients on  $IIA_{it}$  and  $IIA_{it} * IFRS_{it}$ . Therefore, the results were found to be robust.

### 5.3.3 Outliers

The likelihood of extreme observations contained in the selected data sets was addressed by winsorising variables at both the 1<sup>st</sup> and 99<sup>th</sup> percentiles, as well as the 5<sup>th</sup> and 95<sup>th</sup> percentiles. Another concern of this research was the possibility of regression results being biased by outliers. Therefore, tests were re-performed with the three selected data sets detailed above where observations with regression residuals of more than 2 (Appendix 2.D  $\sim$  2.F)<sup>24</sup> and 3 (Appendix 2.G  $\sim$  2.I); standard deviations from zero are excluded.

Results presented from these tables demonstrate that removal of outliers improves the robustness of the total results. For example, in Tables 2.D.5, 2.G.5 and 2.H.3, not all models exhibit statistically significant estimates at conventional levels on coefficients  $IIA_{it}$ ,  $\alpha_1$  and  $IIA_{it}*IFRS_{it}$ ,  $\beta_4$ . However, in both Tables 2.F.3 and 2.I.3, the estimated

<sup>&</sup>lt;sup>24</sup> Each Appendix provides the details of full results for these sub-samples in the separate tables.

coefficients on  $\alpha_1$  and  $\beta_4$  are statistically and significantly different from zero at conventional levels. Thus, conclusions are robust to this alternative specification.

## 5.3.4 Alternative deflator

A possible problem arose concerning variation within purchase acquisitions. It related to the manner in which acquisition premiums are allocated between identifiable and non-identifiable assets. In order to mitigate such concern, this chapter – when defining the variable of identifiable intangible assets for all models – replaced acquisition price with the sum of identifiable intangible assets allocations and goodwill allocations as an alternative deflator. Accordingly tests were re-run based on the selected data sets above. The results obtained are presented in Appendix 2.J to 2.R. As expected, the results are generally consistent with others reported elsewhere in this chapter.

### 5.3.5 Other sensitivities

Tests were also run with takeover samples in which regression observations contained overlapping measurement periods for premium (LHS) variable. In general, untabulated results remain (proportionally) consistent with others reported in this chapter. As an alternative selection period, the criterion of the announcement date was used and the results were found to be robust.

Consistent with the approach of Ayers, Lefanowicz and Robinson (2002), tests were repeated by using an alternative method of limiting the influence of outliers on the analyses (i.e. removal of the respective winsorised top and bottom 1 per cent and 5 per cent values of the acquisition premium). Unreported results are consistent with others

reported in this chapter. Tests were also repeated, by estimating the models by scaling  $PREM_{it}$  (i.e. the acquisition price less the target's market value, deflated by the acquiring firm's market value at the end of the month, 2 months prior to the acquisition effective month) according to different scalars. These include the number of an acquirer's common outstanding shares, the acquirer's book value of equity, and the sum of the target's and acquirer's book value of equity. As expected, results (not tabled) were found to be robust.

In addition, the models were re-estimated by including a dummy variable,  $IIA\_GW\_Dummy_{it}^{25}$ , to mitigate the concern about possible biased assessment of results. Conclusions are robust to this additional control.

Finally, tests were also re-run, defining leverage as the ratio of the sum of the long-term debt of the target and acquirer to the sum of their market value at the end of the month, 2 months prior to the takeover effective month. The results obtained are not qualitatively different than others reported in Table 2.5.

## 6. Conclusion

This chapter has investigated how relative allocations of acquisition price to identifiable intangible assets (and other factors) influence a firm's willingness to pay for 'accounting benefit' in a business combination; in particular, whether firms, on average, are willing to pay a higher acquisition price in order to employ identifiable intangible assets as a device to avoid having to recognise, and then amortise, goodwill.

Evidence is provided that, in a business combination there is a significantly positive association between a higher proportion of the acquisition price being allocated

<sup>25</sup> Indicator variable for the sum of identifiable intangible assets allocations and goodwill allocations; One if the sum is more than zero, Zero otherwise;

to identifiable intangible assets and the purchase price paid prior to the adoption of IFRS in Australia. The evidence is consistent with prior anecdotal evidence, suggesting that acquiring firms managed to allocate a sufficiently high proportion of the acquisition price to identifiable intangible assets in order to avoid goodwill amortisation in years subsequent to the acquisition, and that they were willing to pay for it. Specifically, on average, acquiring firms incurred an amount in excess of 25.8 per cent above their own share price as at the end of the month, 2 months prior to the takeover effective month. Prior to 2005, this allowed them to structure the average (sample) acquisition as an 'accounting benefit' to avoid goodwill amortisation.

In addition to investigating acquiring firms' accounting policies relating to the acquisition price, this study also predicted and found that, in a business combination, the association between the recognised identifiable intangible assets and the acquisition price has become less positive subsequent to the adoption of IFRS in Australia. This is because IFRS requires firms to subject both goodwill and identifiable intangible assets to an impairment test each year; no longer treating them differently removed the major incentive of firms to engage in 'goodwill avoidance' by using the device of recognition of identifiable intangible assets.

**Table 2.1: Sample selection** 

Sample Process	
	Number
Full SDC database as at December 2009	28,230
Removal of firms with incomplete status	8,499
Removal of firms with non-Australian GAAP	7,349
Removal of firms with more than 50% pre-takeover or less than 50%	
post-takeover ownership in the target firm	3,164
Removal of firms with missing competitor's data	4,581
Removal of firms with missing defensive tactics data	3,928
Removal of firms with missing directors' recommendations and experts'	
Conclusions	203
Removal of firms with missing annual reports in the transaction year	19
Removal of firms with missing CRIF data	87
Total firms remaining	400
Removal of outliers	7
Final Sample	393

Table 2.2: Distribution of sample by calendar year and acquirer's industry

Year/Model	Pre-IFRS	Post-IFRS	Full sample
1988	1		1
1989	8		8
1990	7		7
1991	7		7
1992	6		6
1993	14		14
1994	9		9
1995	19		19
1996	28		28
1997	18		18
1998	19		19
1999	26		25
2000	34		34
2001	24		24
2002	16		16
2003	21		21
2004	23		23
2005	26	1	27
2006		34	34
2007		36	37
2008		16	16
Total	306	87	393

Table 2.2 (cont.): Distribution of sample by acquisition year and acquirer's industry

Panel B: Distribution of sample by acquirer	's Industry		
Industry/Model	Pre-IFRS	Post-IFRS	Full sample
Energy	18	3	21
Chemicals	5	0	5
Construction Materials	5	3	8
Paper & Forest Products	2	0	2
Metals & Mining	84	23	107
Capital Goods	0	0	0
Commercial Services & Supplies	22	10	32
Transportation	8	2	10
Automobiles & Components	0	0	0
Consumer Durables & Apparel	5	0	5
Consumer Services	4	2	6
Media	2	1	3
Retailing	16	3	19
Food & Drug Retailing	23	5	28
Food Beverage & Tobacco	1	0	1
Healthcare Equipment & Services	8	1	9
Pharmaceuticals & Biotechnology	0	0	0
Banks	8	6	14
Diversified Financials	54	12	66
Insurance	2	1	3
Real Estate excluding Investment Trusts	12	3	15
Real Estate Investment Trusts	0	0	0
Software & Services	4	1	5
Technology Hardware & Equipment	8	0	8
Telecommunications Services	10	8	18
Utilities	0	0	0
not specified	5	3	8
Total	306	87	393

#Industry definitions are taken from the Australian Graduate School of Management's Centre for Research in Finance (CRIF) price-relatives database.

Table 2.3: Summary descriptive statistics

Panel A: Unwinsorised						
Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	3.458	0.011	30.295	-58.728	416.432	312
$IIA_{it}$	0.145	0.000	0.416	0.416	4.253	312
$OTHER_{it}$	2.939	0.141	18.634	-1.209	249.601	312
$TNI_{it}$	0.201	0.015	1.152	-1.037	17.403	312
$LEV_{it}$	2.588	0.040	27.505	0.000	480.055	312
$TOE_{it}$	13.433	0.000	21.069	0.000	94.500	312
$TER_{it}$	95.357	100.000	11.995	50.100	100.000	312
$CBID_{it}$	0.074	0.000	0.262	0.000	1.000	312
$RELSZ_{it}$	1.499	0.287	10.338	0.001	146.678	312
$MKTBK_{it}$	3.917	1.181	66.953	-580.459	929.191	312
$DEFMES_{it}$	0.090	0.000	0.286	0.000	1.000	312
$_LIQ_{it}$	1.441	0.276	7.575	0.001	96.636	312
Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.005	0.043	8.267	-9.019	75.940	88
$IIA_{it}$	0.198	0.000	0.710	0.710	5.555	88
$OTHER_{it}$	1.314	0.069	8.269	-0.484	76.940	88
$TNI_{it}$	0.146	0.007	0.434	-0.330	3.005	88
$LEV_{it}$	0.370	0.013	1.982	0.000	18.453	88
$TOE_{it}$	9.134	0.000	18.269	0.000	82.800	88
$TER_{it}$	94.286	100.000	13.046	51.300	100.000	88
$CBID_{it}$	0.091	0.000	0.289	0.000	1.000	88
$RELSZ_{it}$	0.578	0.348	1.117	0.000	9.642	88
$MKTBK_{it}$	1.197	1.948	15.182	-76.745	43.160	88
$DEFMES_{it}$	0.045	0.000	0.209	0.000	1.000	88
$LIQ_{it}$	0.728	0.264	1.915	0.007	15.380	88
Full sample period	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.919	0.017	27.043	-58.728	416.432	400
$IIA_{it}$	0.157	0.000	0.495	0.495	5.555	400
$OTHER_{it}$	2.582	0.130	16.912	-1.209	249.601	400
$IFRS_{it}$	0.220	0.000	0.415	0.415	1.000	400
$IIA_{it} * IFRS_{it}$	0.043	0.000	0.342	0.342	5.555	400
$TNI_{it}$	0.189	0.011	1.037	-1.037	17.403	400

$LEV_{it}$	2.100	0.031	24.318	0.000	480.055	400
$TOE_{it}$	12.487	0.000	20.542	0.000	94.500	400
$TER_{it}$	95.121	100.000	12.225	50.100	100.000	400
$CBID_{it}$	0.078	0.000	0.268	0.000	1.000	400
$RELSZ_{it}$	1.296	0.289	9.149	0.000	146.678	400
$MKTBK_{it}$	3.319	1.271	59.544	-580.459	929.191	400
$DEFMES_{it}$	0.080	0.000	0.272	0.000	1.000	400
$LIQ_{it}$	1.284	0.268	6.754	0.001	96.636	400

Table 2.3 (cont.): Summary descriptive statistics

Panel B: Winsorised & removal of outliers											
Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N					
$PREM_{it}$	0.258	0.010	1.227	-0.899	4.564	306					
$IIA_{it}$	0.106	0.000	0.232	0.232	0.885	306					
$OTHER_{it}$	0.537	0.140	0.977	-0.035	3.985	306					
$TNI_{it}$	0.088	0.012	0.173	-0.056	0.704	306					
$LEV_{it}$	0.399	0.040	0.768	0.000	2.905	306					
$TOE_{it}$	12.617	0.000	18.827	0.000	59.305	306					
$TER_{it}$	95.606	100.000	11.147	60.050	100.000	306					
$CBID_{it}$	0.075	0.000	0.264	0.000	1.000	306					
$RELSZ_{it}$	0.466	0.274	0.487	0.015	1.869	306					
$MKTBK_{it}$	1.913	1.190	2.935	-4.151	11.833	306					
$DEFMES_{it}$	0.088	0.000	0.284	0.000	1.000	306					
LIQ <sub>it</sub>	0.607	0.258	0.845	0.018	3.361	306					

Post-IFRS Period:	Mean	Median SD Minimum Maximu		Maximum	N	
$PREM_{it}$	0.214	0.041	0.931	-0.899	4.564	87
$IIA_{it}$	0.110	0.000	0.247	0.247	0.885	87
$OTHER_{it}$	0.402	0.070	0.810	-0.035	3.985	87
$TNI_{it}$	0.103	0.007	0.208	-0.056	0.704	87
$LEV_{it}$	0.193	0.011	0.461	0.000	2.905	87
$TOE_{it}$	8.672	0.000	16.409	0.000	59.305	87
$TER_{it}$	94.515	100.000	12.244	60.050	100.000	87
$CBID_{it}$	0.092	0.000	0.291	0.000	1.000	87
$RELSZ_{it}$	0.465	0.315	0.483	0.015	1.869	87
$MKTBK_{it}$	3.126	2.000	4.575	-4.151	11.833	87
$DEFMES_{it}$	0.046	0.000	0.211	0.000	1.000	87
LIQ <sub>it</sub>	0.522	0.262	0.781	0.018	3.361	87

Full sample period	Mean	Mean Median SD Minimum I		Maximum	N	
$PREM_{it}$	0.239	0.016	1.064	-0.899	4.564	393
$IIA_{it}$	0.106	0.000	0.235	0.235	0.885	393
$OTHER_{it}$	0.500	0.124	0.937	-0.035	3.985	393
$IFRS_{it}$	0.224	0.000	0.417	0.417	1.000	393
$IIA_{it} * IFRS_{it}$	0.024	0.000	0.124	0.124	0.885	393
$TNI_{it}$	0.091	0.010	0.181	-0.056	0.704	393

1 Litt	75.502	100.000	11.571	00.050	100.000	373
$CBID_{it}$	0.076	0.000	0.266	0.000	1.000	393
$RELSZ_{it}$	0.466	0.287	0.485	0.015	1.869	393
$MKTBK_{it}$	2.168	1.288	3.413	-4.151	11.833	393
$DEFMES_{it}$	0.079	0.000	0.270	0.000	1.000	393
$LIQ_{it}$	0.590	0.262	0.831	0.018	3.361	393
$PREM_{it}$	: the acquisition	price less th	e target's m	narket value, de	eflated by th	e
	acquiring firm'	s market val	lue at the en	d of the month	n, 2 months	prior
	to the takeover	effective me	onth			-
$IIA_{it}$	: the proportion	of the acquis	sition price	allocated to ide	entifiable	
	intangible asse	ts				
$OTHER_{it}$	: the amount of a	acquisition p	rice allocate	ed to liabilities	and assets	other
	than IIA and go	odwill, defl	ated by the	acquiring firm	's market va	ılue
	at the end of th	e month, 2 r	nonths prior	r to the takeov	er effective	
	month					
$IFRS_{it}$	: one if the taked	ver effectiv	eness is in t	he post-IFRS 1	period; zero	
	otherwise					
$TNI_{it}$	: the target earni	•				tive
	date of a busin			•	_	
	market value a		the month, 2	2 months prior	to the takeo	ver
	effective month			_	_	_
$LEV_{it}$	: ratio of the targ			•		
<b>77.0 7</b>	end of the mon		-			
$TOE_{it}$	: the acquirer's p		-		-	
$TER_{it}$	: the acquirer's p				_	
$CBID_{it}$	: one if there wa	_	-	_		
$RELSZ_{it}$	: ratio of the targ	•				alue
	at the end of th	e month, 2 r	nonths prior	r to the takeov	er effective	
MUTDU	month	4	14 (1: :		41. 0	1
$MKTBK_{it}$	: ratio of the targ					
	prior to the tak	eover effecti	ive month to	ine target's b	ook value of	l

0.031

0.000

100.000

0.716

18.373

11.391

0.000

0.000

60.050

2.905

59.305

100.000

393

393

393

0.353

11.744

95.362

 $LEV_{it}$ 

 $TOE_{it}$ 

 $TER_{it}$ 

 $DEFMES_{it}$ 

 $LIQ_{it}$ 

All variables in Panel B are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles; outliers, or observations with regression residuals more than three standard deviations from zero, have also been removed.

months prior to the takeover effective month

one if the target has defensive measures in place; zero otherwiseratio of the target's cash, short-term investments, and accounts

receivable to the target's market value at the end of the month, 2

**Table 2.4: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.018
B. IIA <sub>it</sub>	0.103	1.000

Panel B:	A	В	С	D	Е	F	G	Н
A. PREM <sub>it</sub>	1.000	0.018	0.777	-0.030	-0.033	0.100	0.138	-0.027
B. IIA <sub>it</sub>	0.103	1.000	-0.139	-0.009	0.434	-0.017	-0.006	-0.025
C. OTHER <sub>it</sub>	0.451	-0.220	1.000	-0.071	-0.083	0.214	0 .140	-0.030
D. IFRS <sub>it</sub>	0.080	-0.038	-0.076	1.000	0.367	0.023	-0.122	-0.092
E. $IIA_{it} * IFRS_{it}$	0.073	0.379	-0.106	0.486	1.000	-0.033	-0.048	-0.029
F. TNI <sub>it</sub>	-0.010	-0.062	0.108	-0.032	-0.021	1.000	0.172	-0.036
G. LEV <sub>it</sub>	-0.004	0.018	0.010	-0.105	-0.045	0.313	1.000	0.049
H. $TOE_{it}$	0.012	0.009	-0.013	-0.103	-0.084	0.004	0.048	1.000

Panel C:	A	В	I	J	K	L	M	N
A. PREM <sub>it</sub>	1.000	0.018	-0.014	-0.036	0.024	-0.148	-0.005	0.210
B. IIA <sub>it</sub>	0.103	1.000	-0.028	-0.050	-0.048	-0.008	0.000	0.011
I. TER <sub>it</sub>	-0.009	0.005	1.000	-0.029	0.030	0.084	0.019	-0.142
J. <i>CBID<sub>it</sub></i>	-0.057	-0.061	-0.030	1.000	-0.104	-0.034	0.121	-0.028
K. $RELSZ_{it}$	-0.132	0.090	0.040	-0.113	1.000	0.038	-0.113	-0.107
L. MKTBK <sub>it</sub>	-0.165	0.023	0.142	0.026	0.043	1.000	0.007	-0.179
$M.\ DEFMES_{it}$	-0.032	0.047	0.005	0.121	-0.115	0.040	1.000	0.001
N. LIQ <sub>it</sub>	0.187	0.041	-0.111	-0.050	-0.144	0.272	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal.

All correlations significant at the 1% level are bold.

All variables as previously defined.

**Table 2.5: Summary regression results** 

	$PREM_{pre-IFRS}$ (n=306)				PREI	$M_{post-IFRS}$	(n=87)		PREM	$PREM_{full\ period}$ (n=393)			
	Coefficient	t-stat	p-val	ue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	
Constant	-0.199	-1.040	0.299		0.092	0.280	0.781		-0.171	-1.070	0.284		
$IIA_{it}$	0.551	6.040	0.000	***	0.196	1.310	0.194		0.498	5.670	0.000	***	
$OTHER_{it}$	1.166	49.040	0.000	***	1.168	22.370	0.000	***	1.147	55.060	0.000	***	
$IFRS_{it}$									0.167	3.540	0.001	***	
$IIA_{it}IFRS_{it}$									-0.363	-2.070	0.039	**	
$TNI_{it}$	0.264	2.030	0.044	**	0.408	1.970	0.052	**	0.293	2.760	0.006	***	
$LEV_{it}$	-0.010	-0.360	0.721		-0.067	-0.830	0.410		-0.015	-0.580	0.565		
$TOE_{it}$	0.001	0.930	0.354		0.000	0.110	0.916		0.001	1.060	0.292		
$TER_{it}$	0.000	0.250	0.803		0.000	-0.030	0.980		0.001	0.340	0.735		
$CBID_{it}$	0.059	0.730	0.468		-0.167	-1.300	0.196		-0.075	-1.120	0.266		
$RELSZ_{it}$	-0.802	-16.550	0.000	***	-0.822	-8.030	0.000	***	-0.793	-18.860	0.000	***	
$MKTBK_{it}$	0.015	2.000	0.047	**	0.001	0.090	0.931		0.007	1.270	0.206		
$DEFMES_{it}$	-0.003	-0.050	0.963		-0.175	-1.010	0.316		-0.001	-0.010	0.990		
$LIQ_{it}$	0.059	0.024	0.024	**	0.021	0.675	0.675		0.052	2.340	0.020	**	
Adjusted R <sup>2</sup>	0.898				0.877				0.894				
F-stat	244.350		0.000	***	56.770		0.000	***	255.270		0.000	***	

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

$$Perf_{it} = \beta_0 + \beta_1 IIA_{it} + \beta_2 OTHER_{it} + \beta_3 IFRS_{it} + \beta_4 IIA_{it}.IFRS_{it} + \sum_{j=5}^{13} \beta_j \ Control_{jit} + \varepsilon_{it} \ .....(2)$$

All variables as previously defined

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

Table 2.6: Summary regression results for two subsamples: mining firms and all others

Panel A: Pre-IFRS		<b>1</b> 4	0.4)	ממ	714 ( 22)	<u> </u>		
		$M_{miningfirms}$ (1		$PREM_{allothers}$ (n=222)				
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value		
Constant	-0.827	-2.010	0.048 **	0.042	0.200	0.842		
$IIA_{it}$	1.016	5.200	0.000 ***	0.320	3.190	0.002 ***		
$OTHER_{it}$	1.190	22.810	0.000 ***	1.157	44.570	0.000 ***		
$TNI_{it}$	0.521	1.810	0.074 *	0.135	0.960	0.337		
$LEV_{it}$	-0.054	-0.860	0.393	0.016	0.520	0.603		
$TOE_{it}$	0.002	0.650	0.517	0.001	0.780	0.439		
$TER_{it}$	0.006	1.350	0.181	-0.001	-0.680	0.498		
$CBID_{it}$	0.082	0.360	0.719	0.037	0.460	0.646		
$RELSZ_{it}$	-0.743	-6.990	0.000 ***	-0.834	-15.860	0.000 ***		
$MKTBK_{it}$	0.005	0.320	0.753	0.019	2.450	0.015 **		
$DEFMES_{it}$	0.072	0.450	0.652	-0.022	-0.260	0.793		
$LIQ_{it}$	0.094	1.210	0.230	0.036	1.390	0.167		
Adjusted R <sup>2</sup>	0.886			0.908				
F-stat	59.340		0.000 ***	200.120		0.000 ***		

Table 2.6 (cont.): Summary regression results for two subsamples: mining firms and all others

	PRE	$M_{mining\ firms}$ (1	n=23)	PREM <sub>all others</sub> (n=64)				
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-valu	e	
Constant	0.696	0.330	0.744	-0.030	-0.070	0.942		
$IIA_{it}$	-0.010	-0.040	0.970	0.234	0.930	0.355		
OTHER <sub>it</sub>	0.077	0.290	0.780	1.198	20.240	0.000	***	
$TNI_{it}$	-0.675	-1.100	0.295	0.442	1.810	0.075	*	
$LEV_{it}$	-0.382	-0.840	0.420	-0.039	-0.420	0.676		
$TOE_{it}$	0.003	0.640	0.538	0.001	0.220	0.830		
$TER_{it}$	-0.001	-0.080	0.941	0.001	0.250	0.800		
$CBID_{it}$	-0.667	-1.740	0.110	-0.191	-1.280	0.205		
$RELSZ_{it}$	-0.153	-0.570	0.581	-0.797	-6.510	0.000	***	
$MKTBK_{it}$	-0.037	-2.330	0.040 **	0.006	0.550	0.587		
$DEFMES_{it}$	0.012	0.040	0.970	-0.298	-1.110	0.273		
$LIQ_{it}$	-0.420	-1.400	0.189	0.007	0.130	0.893		
Adjusted R <sup>2</sup>	0.845			0.892				
F-stat	1.650		0.210	48.810		0.000	***	

Table 2.6 (cont.): Summary regression results for two subsamples: mining firms and all others

Panel C: Full period	1									
	PRE	$M_{miningfirms}$ (	(109)	PRE	PREM <sub>all others</sub> (n=284)					
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value				
Constant	-0.576	-1.680	0.096 *	-0.214	-1.280	0.201				
$IIA_{it}$	1.000	5.520	0.000 ***	0.199	2.160	0.032 **				
OTHER <sub>it</sub>	1.212	27.670	0.000 ***	1.126	51.660	0.000 ***				
IFRS <sub>it</sub>	0.181	1.620	0.108	0.174	3.750	0.000 ***				
$IIA_{it} * IFRS_{it}$	-0.785	-2.400	0.018 **	-0.079	-0.400	0.690				
$TNI_{it}$	0.564	2.370	0.020 **	0.157	1.450	0.148				
$LEV_{it}$	-0.072	-1.250	0.216	0.017	0.660	0.508				
$TOE_{it}$	0.003	1.180	0.240	0.000	-0.030	0.975				
$TER_{it}$	0.003	0.910	0.364	0.002	1.100	0.272				
$CBID_{it}$	0.089	0.430	0.671	-0.119	-1.900	0.058 *				
$RELSZ_{it}$	-0.784	-9.080	0.000 ***	-0.851	-18.900	0.000 ***				
$MKTBK_{it}$	0.001	0.080	0.935	0.009	1.700	0.091 *				
$DEFMES_{it}$	0.043	0.320	0.747	-0.003	-0.030	0.973				
$LIQ_{it}$	0.082	1.170	0.246	0.039	1.850	0.065 *				
Adjusted R <sup>2</sup>	0.894			0.912						
F-stat	70.100		0.000 ***	225.490		0.000 ***				

Where:

$$\begin{split} Perf_{it} &= \alpha_{0} + \alpha_{1}IIA_{it} + \alpha_{2}OTHER_{it} + \sum_{i=3}^{11}\alpha_{i} Control_{iit} + \varepsilon_{it} ......(1) \\ Perf_{it} &= \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IFRS_{it} + \beta_{4}IIA_{it}.IFRS_{it} + \sum_{j=5}^{13}\beta_{j} Control_{jit} + \varepsilon_{it} ......(2) \end{split}$$

All variables as previously defined

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

**Table 2.7: Summary regression results** 

	$PREM_{pre-IFRS}$ (n=266)				PREM	$I_{post-IFRS}$ (	n=77)		PREM <sub>full period</sub> (n=343)			
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.641	-0.190	0.852		0.444	1.190	0.240		-1.003	-0.100	0.924	
$IIA_{it}$	7.664	1.680	0.093	*	-0.060	-0.790	0.430		7.795	2.000	0.047	**
$OTHER_{it}$	1.007	12.450	0.000	***	0.999	164.070	0.000	***	1.005	14.570	0.000	***
$IIA\_Dummy_{it}$	1.901	0.500	0.620		0.233	1.700	0.094	*	1.562	0.520	0.602	
$IFRS_{it}$									-0.428	-0.140	0.891	
$IIA_{it} * IFRS_{it}$									-8.078	-1.600	0.110	
$TNI_{it}$	-2.021	-0.700	0.485		0.253	1.890	0.063	**	-1.774	-0.750	0.452	
$LEV_{it}$	0.019	0.050	0.962		-0.014	-0.600	0.549		0.009	0.030	0.979	
$TOE_{it}$	-0.078	-1.030	0.303		0.000	-0.130	0.894		-0.065	-1.060	0.289	
$TER_{it}$	0.037	0.260	0.799		-0.002	-0.600	0.550		0.019	0.180	0.857	
$CBID_{it}$	-0.426	-0.070	0.944		-0.244	-1.440	0.155		-0.176	-0.040	0.969	
$RELSZ_{it}$	0.028	0.080	0.935		-1.016	-19.500	0.000	***	0.001	0.000	0.997	
$MKTBK_{it}$	-0.051	-2.190	0.029	**	0.001	0.370	0.715		-0.049	-2.460	0.014	***
$DEFMES_{it}$	-0.085	-0.020	0.988		-0.370	-1.330	0.189		-0.407	-0.090	0.929	
$LIQ_{it}$	-0.030	-0.110	0.914		0.021	0.820	0.414		-0.034	-0.140	0.889	
_												
Adjusted R <sup>2</sup>	0.373				0.998				0.389			
F-stat	14.150		0.000	***	2591.270		0.000	***	16.550		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \alpha_3 IIA\_Dummy_{it} + \sum_{i=4}^{12} \alpha_{ij} \ Control_{iit} + \varepsilon_{it} \ ......(3)$$

$$Perf_{it} = \beta_0 + \beta_1 IIA_{it} + \beta_2 OTHER_{it} + \beta_3 IIA\_Dummy_{it} + \beta_4 IFRS_{it} + \beta_5 IIA_{it}.IFRS_{it} + \sum_{j=6}^{14} \beta_j Control_{jit} + \varepsilon_{it}$$
.....(4)

All variables as previously defined

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Chapter 3: The recognition of identifiable intangible assets and post-acquisition financial performance

### **Abstract**

The objective of this chapter is to evaluate whether firms that allocate a higher proportion of acquisition premiums to identifiable intangible assets 'overpay' for the acquisitions and whether this is reflected in post-acquisition performance<sup>26</sup>. Evidence is provided that there is no association between identifiable intangible assets recognised consequent to an acquisition and post-acquisition performance. However, there is evidence that goodwill is associated with increases in firm performance subsequent to the acquisition<sup>27</sup>. Furthermore, the association of amounts recognised as goodwill and identifiable intangible assets and post-acquisition performance, and changes in performance, are significantly different<sup>28</sup>. These results are consistent with opportunistic motivations impacting the decision to recognise identifiable intangible assets rather than goodwill. It is also consistent with the opportunity to recognise identifiable intangible assets encouraging 'overpayment'.

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<sup>&</sup>lt;sup>26</sup> The sample for this study is based in the first instance on Australian acquisitions completed between 1988 and 2008 which are identified from the Mergers and Acquisitions Database of the Securities Data Company (SDC). The final sample for one-, two- and three-years subsequent to the acquisition are 367, 339 and 309 takeovers respectively. Of these 367, 339 and 309 firms, 99, 93 and 83 belong to 'Metals and Mining' industry.

<sup>&</sup>lt;sup>27</sup> There is evidence that firms recognising goodwill have higher pre-acquisition performance than firms recognising identifiable intangible assets.

<sup>&</sup>lt;sup>28</sup> There is evidence of firms recognising goodwill reporting improved performance.

### 1. Introduction

Evidence is provided in Chapter 2 of firms recognising identifiable intangible assets, paying higher acquisition premiums during the period prior to the adoption of IFRS. This gives rise to concerns about whether the higher acquisition premiums were a consequence of 'overpayment'. It also raises the issue of whether firms were recognising identifiable intangible assets to avoid the accounting regulations for goodwill which would depress reported earnings. These behaviours would both be manifestations of managerial opportunism and would be reflected in post-acquisition firm performance. Accordingly, this chapter addresses three issues over the period 1988-2008 by asking the following questions. First, is there evidence of amounts recognised as identifiable intangible assets being associated with an increase in firm performance? Second, is this relation different from that of goodwill and firm performance? And third, did the relation between identifiable intangible assets and firm performance change with transition to IFRS?

There is an extensive literature that considers accounting practices adopted for business combinations and how premiums on acquisitions are accounted for. This includes consideration of the use of the purchase and pooling methods to account for combinations (e.g. Ayers, Lefanowicz & Robinson 2002), with the pooling method allowing firms to avoid the recognition of goodwill. It also includes the separate recognition of amounts as identifiable intangible assets to avoid the recognition of goodwill (e.g. Godfrey & Koh 2001; Ritter & Wells 2006). While these studies provide evidence that amounts recognised as identifiable intangible assets and goodwill are both value relevant and associated with future firm performance, a number of issues are unaddressed. Are there differences in the associations between amounts recognised as identifiable intangible assets (at the time of acquisition) or

goodwill and future performance? Does the ability to recognise identifiable intangible assets encourage 'overpayment', and are amounts recognised as identifiable intangible assets associated with relatively poor post-acquisition performance? Does the relation between amounts recognised as identifiable intangible assets and post-acquisition performance change subsequent to the adoption of IFRS. This is of particular concern as there is evidence in Chapter 2 that firms recognising identifiable intangible assets prior to the transition to IFRS have higher acquisition premiums.

The primary motivation for this chapter is to provide insights into whether firms that recognise identifiable intangible assets record increases in post-acquisition performance. This would not occur if the ability to recognise identifiable intangible assets encourages acquisitions which are motivated by managerial opportunism (e.g. Hope & Thomas 2008) and allows the acquiring firm to 'overpay'. Hence there would not be an increase in post-acquisition performance. This would also occur if there is an association between the motivations for the acquisition and the accounting decision to recognise an identifiable intangible asset to avoid the accounting regulation relating to goodwill. A secondary motivation for this chapter is to evaluate how the adoption of IFRS in Australia in 2005, which changed the incentives to recognise identifiable intangible assets rather than goodwill, impacted this relation.

Based on a sample of 367 firms listed on the Australian Stock Exchange over the period 1988-2008, there is no evidence of identifiable intangible assets recognised consequent to an acquisition being associated with post-acquisition performance, or changes in post-acquisition performance. In contrast, amounts recognised as goodwill are associated with post-acquisition performance and increases in post-acquisition performance. Furthermore, the association of amounts

recognised as goodwill and identifiable intangible assets, and post-acquisition performance, are significantly different. These results are consistent with opportunistic motivations impacting the decision to recognise identifiable intangible assets rather than goodwill. It is also consistent with the opportunity to recognise identifiable intangible assets encouraging 'overpayment'.

The sensitivity of the above result to the adoption of IFRS is also considered. There is evidence in both the pre- and post-IFRS transition periods of amounts recognised as goodwill being positively associated with firm performance. This is not the case for identifiable intangible assets, either before or after the adoption of IFRS.

The current study makes several important contributions to the existing literature. By investigating how acquiring firms allocate the acquisition premium to identifiable intangible assets and goodwill, and how these are associated with post-acquisition firm performance, the current study adds to the research on motivations for business combinations (e.g. Penrose 1959; Marris 1964; Jensen & Meckling 1976; Meeks 1977; Asquith, Bruner & Mullins 1983; Asquith 1983; Lubatkin 1983; Jensen 1986; Roll 1986; Morck, Shleifer & Vishny 1988; Bannister & Riahi-Belkaoui 1991; Firth 1991, Chatterjee 1992; Rahman & Limmack 2004; Bild, Guest & Runsten 2005; Hope & Thomas 2008; Hodgkinson & Partington 2008; Edward & Wang 2010). Furthermore, the current study adds to the understanding of how acquiring firms can adapt their takeover strategies, associated with the recognition of acquired identifiable intangible assets and goodwill, to take into account the post-acquisition financial performance of the combined firm.

The remainder of the chapter is organised as follows. In the following section an overview of prior research into motivations for business combinations and how

they are accounted for is introduced. From this hypotheses are developed. In Section 3, the research design is described and includes the various measures of the post-acquisition financial performance and control variables used in the analyses. Section 4 presents the sample selection procedure and provides some preliminary descriptive results. Section 5 sets out the main results of the analysis regarding changes in the operating performance of acquiring and target firms subsequent to acquisitions, together with robustness tests. Finally, the conclusions are presented in Section 6.

# 2. Prior literature and development of hypotheses

### 2.1 Prior literature on business combinations

There is an extensive literature investigating the motivations for business combinations and an overview of this is presented in Brealey and Myers (2000).<sup>29</sup> This includes motivations which could be labelled efficient on the basis that they create value through economies or synergies. For example, Penrose (1959) considers the potential for firm growth which is provided through takeovers, whilst Singh and Montgomery (1987) consider the potential for increases in operational efficiency through revenue enhancements and cost reductions, increases in market power, and other forms of financial gain. Furthermore, Bradley, Desai and Kim (1988) suggest that managers of both targets and bidders act in the best interests of their respective shareholders by pursuing these economic gains. In these circumstances an outcome of the business combination is that the value of the combined entity is greater than the sum of separate entities (Lubatkin 1983; Chatterjee 1992).

There are also motivations for business combination which might be labelled opportunistic and do not result in the creation of value for shareholders. These arise

<sup>&</sup>lt;sup>29</sup> See for example, Brealey & Myers (2000, pp. 941–50).

as a consequence of the conflict between shareholders and managers described in agency theory,<sup>30</sup> whereby managers pursue their own gains rather than those of the shareholders (Jensen & Meckling 1976; Morck, Shleifer & Vishny 1990). Firth (1991) confirms this in takeovers where, notwithstanding the value of the bidding firm declining, the managers appear to make gains. In these circumstances, acquisitions are commonly described as 'empire building' with the acquisition simply inflating the assets under management control (Marris 1964).<sup>31</sup> Furthermore, the acquisition may have detrimental effects on the combined firm's post-acquisition financial performance (e.g. Asquith 1983; Asquith, Bruner & Mullins 1983; Bannister & Riahi-Belkaoui 1991; Hope & Thomas 2008; Edward & Wang 2010).

# 2.2 Prior literature on accounting for business combinations

There is also an extensive literature which has evaluated accounting practices for business combinations. In the US, attention has been focused on the use of either the purchase method or the pooling of interest method (e.g. Ayers, Lefanowicz & Robinson 2002). A feature of the pooling method is that it avoids the recognition of goodwill which was subject to mandatory amortisation. This not only reduces the expenses recognised subsequent to the business combination, but also minimises the value of assets recognised which would impact the calculation of returns. Accordingly, the adoption of pooling methods is commonly labelled opportunistic (e.g. Ayers, Lefanowicz & Robinson 2002). However, in Australia firms have not

<sup>&</sup>lt;sup>30</sup> The agency motive was originally described by Marris (1964). He called it, and it is sometimes referred to as, the 'managerialism' motive.

<sup>&</sup>lt;sup>31</sup> In support of his hubris hypothesis, Roll (1986) points to the large gains for target shareholders and the meagre (and in some studies, negative, though statistically insignificant) returns to bidder shareholders. He suggests that this evidence is not consistent with the bidding firm's management creating wealth for its shareholders. Instead Roll (1986) documents that managers overestimate the gains from takeover bids and overpay for the privilege of accessing possibly non-existent gains. When there is no synergy, as is the case of pure hubris, the gains to target shareholders would simply represent wealth transfers from bidders to targets.

been able to adopt the pooling method for business combinations, with the purchase method being uniformly prescribed for all business combinations.

Notwithstanding, there was discretion in accounting for business combinations. Until the transition to IFRS in 2005, AASB 1015 Accounting for the Acquisition of Assets and AASB 1013 Accounting for Goodwill were applicable in Australia. These prescribed the allocation of the purchase price for an acquisition to all assets (tangible and intangible) and liabilities, with any excess to be recognised as goodwill and subject to mandatory amortisation over a maximum period of 20 years. Critically, recognising an identifiable intangible asset reduced the amount required to be recognised as goodwill. There was no accounting standard specifically addressing identifiable intangible assets and this created considerable latitude in the recognition of such assets. Additionally, there was no requirement for mandatory amortisation (Wines & Ferguson 1993; Day & Hartnett 2000; Wyatt, Matolcsy & Stokes 2001). As a result, it has been claimed that a favoured technique for avoiding the earnings dilutive consequences of goodwill was the aggressive valuation of identifiable intangible assets (Walker 1989; Carlin & Finch 2007). For this reason, the recognition of identifiable intangible assets has also been labelled 'opportunistic'<sup>32</sup>.

With the adoption of IFRS in Australia in 2005 there was significant change in the regulation. While the allocation of the purchase price for acquisition to all assets and liabilities is still required (AASB 3 Business Combinations), accounting for intangible assets is now addressed (AASB 138 Intangible Assets). Importantly, this no longer mandates the amortisation of goodwill and instead imposes the requirement for annual impairment testing of both identifiable intangible assets and

<sup>&</sup>lt;sup>32</sup> The literature generally describes identifiable intangible assets as 'opportunistic', although there are exceptions (e.g., Wyatt 2005).

goodwill. Accordingly, the incentive for the opportunistic recognition of identifiable intangible assets has been removed.

# 2.3 Development of hypotheses

In Section 2.1 of this chapter, the motivations for business combinations are introduced and the potential for business combinations to be value creating (efficient) or value destroying (opportunistic) is considered. Additionally, in Section 2.2, the motivations for the choice of accounting practices are introduced and the recognition of identifiable intangible assets is identified as opportunistic. This raises the issue of whether the motivations for undertaking business combinations are also reflected in the accounting practices adopted, and hence post-acquisition performance. While there is evidence that amounts recognised as goodwill and identifiable intangible assets are value relevant generally (e.g. Godfrey & Koh 2001; Ritter & Wells 2006), these studies do not distinguish between identifiable intangible assets recognised at cost and those which have been subsequently been revalued.<sup>33</sup> This is problematic as the value relevance of identifiable intangible assets identified may be primarily attributable to those that have been revalued, where constraints on revaluation may operate.<sup>34</sup> Accordingly, this study focuses exclusively on amounts recognised at cost consequent to an acquisition and addresses three important issues. First, whether there is a relation between acquisition premiums recognised as identifiable intangible assets and post-acquisition performance. Second, whether there are differences in the

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<sup>&</sup>lt;sup>33</sup> An issue here is the extent to the relevance of such assets is impacted by whether the assets recognised at cost or revaluation amount.

<sup>&</sup>lt;sup>34</sup> Specifically, prior to 2005 while auditors may readily accept carrying forward a recently acquired identifiable intangible asset at cost, revaluation will only likely be countenanced where assets are generating sufficient cash flows to support the revaluation amount.

relations of identifiable intangible assets and goodwill with post-acquisition performance. Third, whether the differences persist subsequent to transition to IFRS.

As discussed above, there are a range of potential motivations for undertaking a business acquisition. If acquisitions are opportunistically motivated it is unlikely that the acquiring firms performance will improve subsequent to the acquisition. Furthermore, this would be exacerbated if there was evidence of 'overpayment'; this was considered in Chapter 2. If managers are undertaking business combinations for opportunistic reasons, it is also likely that they will seek accounting practices that obscure this and minimise the impact of the acquisition on reported performance. Of specific concern is whether, for business combinations that are not value adding (opportunistic), it is more likely that identifiable intangible assets are recognised, and whether this is reflected in post-acquisition financial performance. This is captured in the following hypothesis:

 $H_1$ : There is no relation b etween a cquisition p remiums recognised a sidentifiable in tangible assets and post-acquisition financial performance.

Alternatively, if management are increasing shareholder value then this should be reflected in future returns: there is little incentive to adopt accounting practices which might be labelled opportunistic. Hence there will be a positive relation between firm performance and amounts recognised as goodwill, and this will be different from the relation between identifiable intangible assets and post-acquisition performance. This is reflected in the following hypothesis:

 $H_2$ : There are difference s in the relations between a cquisition premiums recognised as goodwill and post-acquisition financial performance and identifiable intangible assets and post-acquisition performance.

A related issue is whether this result is sensitive to the transition to IFRS in 2005. Importantly, transition to IFRS removed much of the opportunistic incentive for the recognition of identifiable intangible assets. Accordingly, there may not be the same alignment of opportunistic motivations for business combinations and the choice of accounting practice in an IFRS environment. This is reflected in the following hypothesis:

 $H_3$ : Subsequent to the transition to IF RS, there is a positive association be tween acquisition premiums, recognised as identifiable intangible ass ets, and post-acquisition financial performance.

# 3. Research Design

The basic model used in this study to evaluate the association between firm performance and the recognition of identifiable intangible assets and goodwill ( $H_1$  and  $H_2$ ) is as follows:

$$Perf_{it} = \propto_0 + \propto_1 IIA_{it} + \propto_2 GW_{it} + \sum_{j=3}^9 \propto_j Control_{jit} + \varepsilon_{it}$$
 .....(1)

To evaluate whether the relation between performance and identifiable intangible assets changed with the transition to IFRS, the above model is reestimated with the inclusion of a dummy variable for the period subsequent to the

transition to IFRS, and an interaction variable on the amount recognised as identifiable intangible assets (H<sub>3</sub>). This is reflected in the following equation:

$$Perf_{it} = \beta_0 + \beta_1 IIA_{it} + \beta_2 GW_{it} + \beta_3 IFRS_{it} + \beta_4 IIA_{it}.IFRS_{it} + \sum_{j=6}^{12} \beta_j Control_{jit} + \varepsilon_{it} \dots (2)$$

# 3.1 Dependent Variables

In this study a range of measures of firm performance are considered. In the first instance, performance is measured as earnings before interest, taxation, depreciation and amortisation ( $EBITDA_{it}$ ); this is measured in each of the three years subsequent to the acquisition. This measure of performance is consistent with a large number of studies (e.g. Robinson & Shane 1990; Choi & Lee 1991; Healy, Palepu & Ruback 1992; Ghosh 2001; Sharma & Ho 2002; Kruse et al. 2002; Ayers, Lefanowicz & Robinson 2002; Powell & Stark 2005; Martynova, Oosting & Renneboog 2006; James, How & Verhoeven 2008) and importantly, it avoids the potential mechanical links to goodwill and intangible accounting that would affect accounting earnings as a financial performance measure This value is scaled by the value of the firm in the preceding year.

It is recognised that the impact of the acquisition on performance may be conditioned by the level of pre-acquisition performance. This is addressed in the first instance by introducing a control for the level of pre-acquisition performance  $(EP_{it-1})$  measured as the ratio of earnings before interest, taxation, depreciation and amortisation to price (see below under *Controls*). In addition, performance is also

<sup>35</sup> Performance is not considered in the change year as this will be impacted by the timing of the acquisition within the acquisition year and the possible recognition of acquisition costs.

<sup>&</sup>lt;sup>36</sup> EBITDA is widely used in information intermediaries (e.g., loan covenants). It allows comparability across a broad variety of firms. It can also be easily derived from income statement and provides a simple proxy for cash generation in the absence of other data. By evaluating it can help analysts determine which businesses are more likely to default on their debt obligations.

measured on a changes basis, capturing changes in performance between years 1 and 2, 2 and 3, and 1 and 3.

Finally, as a sensitivity, cash flow from operations  $(OCF_{it})$  is used as an alternative measure of firm performance. The results are also considered with performance measured as market adjusted share returns  $(MARKET_{it})$  to determine whether the opportunism suggested is recognised by the market.

## 3.2 Independent Variables

The primary independent variables of concern reflect the amounts recognised as identifiable intangible assets and goodwill. Identifiable intangible assets (*IIA*) are determined as the amount of the takeover purchase price allocated to identifiable intangible assets and this is deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the effective date of the business combination. The post-acquisition market value is used; this reflects the combined business and the extent to which the accounting flexibility arising from the acquisition is material for the combined firm. Goodwill (*GW*) is the amount of the takeover purchase price allocated to goodwill. This is again deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the effective date of the business combination.

In Australia, firms were required to comply with the Australian equivalent of IFRS from  $2005^{37}$ . Furthermore, there was no early or voluntary adoption. Accordingly, financial reports are easily categorised as being prepared under Australian accountings standards or IFRS. The *IFRS*<sub>it</sub> variable is a dummy variable

<sup>&</sup>lt;sup>37</sup> The first full year of AIFRS only refers to those firms which had 31 December 2005 year ends.

which assumes the value of "One" if the financial reports were prepared in or after 2005 and hence under IFRS, otherwise "Zero".

#### 3.3 Controls

Prior research (e.g. Sharma & Ho 2002; Martynova, Oosting & Renneboog 2006; Tuch & O'Sullivan 2007) identifies many economic factors that are associated with a firm's post-acquisition financial performance. The current study includes a number of these factors (accounting and non-accounting) as control variables in the regression model.

Numerous studies (e.g. Rau & Vermealen 1998; Sudarsanam & Mahate 2003; Conn et al. 2005) suggest that a combined firm's post-acquisition financial performance will be related to the acquirer's pre-acquisition performance and expected changes in performance. Consistent with prior studies, pre-acquisition performance and expected changes in performance are captured by the inverse of the price-to-earnings ( $EP_{it-1}$ ) and market value to book value ( $MTB_{it-1}$ ) respectively.

Prior studies (e.g. Ghosh & Jain 2000; Kang, Shivdasani & Yamada 2000) document that the acquirer's leverage is significantly associated with the combined firm's post-acquisition financial performance. They note that highly leveraged acquirers are more likely to gain positive share price reactions following acquisition announcements, and that the higher the acquirers' long-term debt, the greater the rise in the share price. On the other hand, Clark and Ofek (1994), Switzer (1996), and Linn and Switzer (2001), using US data, find no significant relation between an acquirer's high leverage in the past and the combined firm's post-acquisition financial performance. Notwithstanding, leverage ( $LEV_{it-1}$ ), measured as the long-

term debt of the acquiring firm deflated by the acquirer's market value prior to the takeover announcement, is included as a control variable.

The mood<sup>38</sup> of an acquisition is an important determinant of the combined firm's post-acquisition financial performance (e.g. Jensen 1988; Weisbach 1993; O'Sullivan & Wong 2005). Acquirer aggression might arise from perceived synergies or a desire to build an empire (e.g. Jensen 1986; Roll 1986; Burkart & Panunzi 2006). Rejection of bids may be motivated by an inefficient target management's fear of replacement, or be in the best interest of the shareholders (e.g. Manne 1965; Jensen 1993; Cotter, Shivadasani & Zenner 1997; Healy, Palepu & Ruback 1997; Burkart & Panunzi 2006). Additionally, a hostile target management could demand a higher acquisition premium (e.g. Jarrell & Bradley 1980; Bradley, Desai & Kim 1988; Varaiya & Ferris 1987; Agrawal, Jaffe & Mandelker 1992; Kennedy & Limmack 1996; Gregory 1997; Loughran & Vijh 1997; Rau & Vermealen 1998; Walker 2000; Cosh & Guest 2001; Goergen & Renneboog 2004). However, that is likely to have a subsequent negative impact on the post-acquisition firm's financial performance. Accordingly, the nature of the acquisition  $(MOOD_{it})$  is measured as "One" for a hostile takeover; otherwise "Zero" is included as a control variable.

Empirical evidence suggests that the method of payment is an important determinant of the post-acquisition firm's financial performance. Specifically, cash offers are associated with the replacement of underperforming target management (e.g. Denis & Denis 1995; Ghosh & Ruland 1998; Parrino & Harris 1999) and better post-acquisition financial performance in both the short-term (e.g. Travlos 1987;

<sup>&</sup>lt;sup>38</sup> Takeovers are typically categorised as being either friendly or hostile. In friendly (agreed) acquisitions, the board of the target firm recommends acceptance of the bid to the shareholders. In hostile bids, the board of the target firm recommends rejection but the bidder still seeks to win shareholder approval in the face of managerial opposition.

Draper & Paudyal 1999; Walker 2000; Dong et al. 2005) and the long-term (e.g. Loughran & Vijh 1997; Cosh & Guest 2001; Linn & Switzer 2001). On the other hand, equity offers are more likely to bring about a dilution of the share price (e.g. Mitchell, Pulvino & Stafford 2004) and tend to be associated with a negative post-acquisition financial performance. Therefore, the current study includes  $METHOD_{it}$  as a control variable in the regression, which might be associated with the post-acquisition firm's financial performance.

Prior research (e.g. Asquith, Bruner & Mullins 1983; Switzer 1996; Linn & Switzer 2001; Bruner 2002) has documented an association between the takeover acquired firm's size and the post-acquisition financial performance. Bruner (2002) suggests that a relatively larger acquired firm for a business combination is more likely to achieve sizeable financial synergies than a smaller acquisition, resulting in stronger post-acquisition financial performance. On the other hand, relatively small targets find that difficulties of managing a larger combined firm outweigh financial synergies (Clark & Ofek 1994); that relatively smaller acquirers make potentially risky acquisitions; and the combined firm may suffer a relatively larger economic impact. In contrast, other studies (e.g. Healy, Palepu & Ruback 1992; Heron & Lie 2002; Sharma & Ho 2002; Kruse et al. 2002; Moeller & Schlingemann 2004; Powell & Stark 2005) document that the size of the acquisition transaction is not a material factor in the post-acquisition profitability of the combined firm. For these reasons, the current study includes acquisition size  $(RELSZ_{it-1})$  estimated as the ratio of the acquired firm's market value to the acquiring firm's market value prior to the takeover announcement as a control variable.

Economic synergies should ultimately provide positive returns for firms' shareholders. These are most likely to exist where both acquirer and target are in the

same industry. Diversification of acquisitions (which might be associated with 'empire building') can create disadvantages which may outweigh economic synergies (e.g. Sudarsanam, Holl & Salami 1996; Scharfstein & Stein 2000; Walker 2000). However, while some earlier studies link diversification with poor post-acquisition financial performance (e.g. Healy, Palepu & Ruback 1992), later studies find little to support such conjecture (e.g. Switzer 1996; Linn & Switzer 2001; Sharma & Ho 2002; Powell & Stark 2005). Thus, the current study includes  $RELNS_{it}$  as a control variable in the regression model in order to gain control for the effect of any industry relatedness between two firms on the post-acquisition financial performance.

## 4. Sample

#### 4.1 Data collection

The sample for this study is based in the first instance on Australian acquisitions completed between 1988 and 2008 which are identified from the Mergers and Acquisitions Database of the Securities Data Company (SDC). This database also provides details of acquisition effective dates; target and acquirer names and industry sectors; target directors' recommendations; and the method of payment on the acquisition. Acquisitions are only included if the acquirers shareholding prior to the acquisition was less than 50 per cent of ordinary voting target shares and post-acquisition was at least 50 per cent (i.e. goodwill or identifiable assets had to be determined at the conclusion of the combination).<sup>39</sup>

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<sup>&</sup>lt;sup>39</sup> This is to ensure that the subsidiary was consolidated in the combined firm's consolidated financial statements in immediate post-acquisition annual report(s). The guidelines in AASB 1024 *Consolidated Accounts, (* since replaced by AASB 127 *Consolidated and Sep arate Financi al Statements)* stipulate that the primary test for determining whether a subsidiary should be consolidated is controlling interest, not proportionate ownership. If the acquirer's pre-acquisition

Firms are excluded if they report in a currency other than Australian dollars; there is share price data missing from the Australian Graduate School of Management's CRIF database; or annual report data is missing from Huntley's Aspect database. Identifiable intangible assets, goodwill and other net assets of the entity acquired are hand-collected from the notes in an acquirer's immediate post-acquisition financial report. Accounting data is required at least one year prior to the acquisition and up to three years after the acquisition, and this further restricted the sample.<sup>40</sup> Application of all selection criteria yielded a final sample of 367, 339 and 309 takeovers for observations for one-, two- and three-years subsequent to the acquisition respectively.<sup>41</sup> A summary of the sample selection process and the distribution of the observations is provided in Table 3.1.

Descriptive statistics for sample firms are presented in Table 3.2. In Panel A, the dependent variables are presented and this reveals mean  $EBITDA_{it}$  increasing from 0.1293 to 0.1553 over the three years subsequent to the acquisition. Interestingly, there was not a similar increase in median values which declined minimally from 0.1230 to 0.1213. Importantly, this indicates variation in post-acquisition performance and that a number of the business combinations are unlikely to be increasing firm performance and creating value for shareholders.

ownership of the subsidiary was less than 50 per cent, this subsidiary should still be consolidated if control exists. By implication, there is no reported goodwill account and no post-acquisition amortisation if there is no consolidation. The current study therefore requires a business combination to be included in the sample firm as evidence of the post-acquisition consolidation of the target. The *Controlled Entities* footnote in the acquirer's annual report(s) in the year after acquisition was applied to determine whether consolidation was actually effected (James, How & Verhoeven 2008).

<sup>&</sup>lt;sup>40</sup> The current study allows a time period that is sufficient for any potential economic gains to be realised.

As the current study requires that at least 1 year of pre-acquisition accounting data be available, it had to restrict the sample to acquisitions completed no earlier than 1988 and no later than 2008, because the latest accounting data available in Huntley's Aspect is only up to 2009. It was necessary to impose the upper limit of 2008 in order to have at least one year of post-acquisition data available for analyses. Various analyses are based on fewer observations when particular data is unavailable. In order to rebut the possibility of data errors and extreme observations the current study winsorised all data used in regressions at the 5th and 95th percentiles.

Descriptive statistics for the independent variables are presented in Panel B. This shows that while for most business combinations, no identifiable intangible assets were recognised (median  $IIA_{it} = 0$ ), the mean of  $IIA_{it}$  was still 0.1121. This indicates that in some acquisitions material, identifiable intangible assets are recognised. In comparison, most firms recognised goodwill (median  $GW_{it} = 0.0231$ ), albeit with a lower magnitude. Of the sample firms with one year of post-acquisition performance available, 19.07% were subsequent to the application of  $IFRS_{it}$ . Only 8.72% of acquisitions were identified as hostile ( $MOOD_{it}$ ) and only 3.04% involved the payment of cash ( $METHOD_{it}$ ).

A correlation matrix for the variables used in this study is presented in Table 3.3.  $^{42}$  It is notable that the correlation between  $EP_{it-1}$  (i.e. pre-acquisition profitability) and  $IIA_{it}$  is negative (Spearman Corr = -0.0291), while the correlation with  $GW_{it}$  is positive and significant (Spearman Corr = 0.1346). Furthermore, the correlation between  $EBITDA_{it+1}$  (post-acquisition performance) and  $IIA_{it}$  is insignificant (Spearman Corr = 0.001), and the correlation with  $GW_{it}$  is positive and significant (Spearman = 0.2724). This is consistent with previous studies (e.g. Martynova, Oosting & Renneboog 2006; Tuch & O'Sullivan 2007) which find that post-acquisition financial performance is significantly related to goodwill allocation in the business combinations. Furthermore, it is consistent with the expectation of opportunism and that firms with relatively poorer performance seek to avoid the income statement impacts of goodwill amortisation by recognising identifiable intangible assets. There is a negative correlation between  $IIA_{it}$  and  $GW_{it}$  (Spearman Corr = -0.0164), but this is not significant. This contrasts with the Pearson

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 $<sup>^{42}</sup>$  As a significant number of observations of  $IIA_{it}$  are zero, Spearman rank correlations are the focus of the discussion.

correlation which is negative and significant (Pearson Corr = -0.1519). In combination, this suggests the recognition of identifiable intangible assets as a substitute for goodwill recognition, with this being most pronounced for firms which recognise material identifiable intangible assets.

To the extent that there is a positive correlation between goodwill and preacquisition performance (Spearman Corr = 0.135), this suggests that firms
recognising goodwill will be less likely to be concerned with the impacts of goodwill
recognition and amortisation. Furthermore, the negative correlation with acquisition
size (Spearman Corr = -0.144) likely reflects firms seeking to avoid goodwill
recognition, only if it is a material acquisition and the accounting choice of
recognising goodwill or identifiable intangible assets is likely to have a material
impact on reported performance. These are both consistent with opportunism
impacting the accounting choice. Problematically, the correlations across the
variables, especially performance, would suggest that collinearity may be an issue in
models including all controls.

#### 5. Results and Discussion

# 5.1 Recognition of identifiable intangible assets ( $H_1$ and $H_2$ )

The results for the tests of  $H_1$  are in the first instance reported in Table 3.4, Panel A. This highlights the association between post-acquisition performance and amounts recognised as identifiable intangible assets and goodwill. It shows that none of the associations between  $EBITDA_{it+1}$ ,  $EBITDA_{it+2}$ ,  $EBITDA_{it+3}$  and  $IIA_{it}$ , are significant ( $\alpha_1 = -0.066$ , t-stat = -1.39, p = 0.165;  $\alpha_1 = 0.005$ , t-stat = 0.10, p = 0.922;  $\alpha_1 = 0.051$ , t-stat = 0.85, p = 0.395 respectively), which is consistent with  $H_1$ . In contrast, there is a positive and significant relation between  $EBITDA_{it+1}$ ,

*EBITDA*<sub>it+2</sub>, *EBITDA*<sub>it+3</sub> and *GW*<sub>it</sub> ( $\alpha_2$  = 0.098, t-stat = 2.75, p = 0.006;  $\alpha_2$  = 0.123, t-stat = 3.15, p = 0.002;  $\alpha_2$  = 0.075, t-stat = 1.66, p = 0.099 respectively). Furthermore, the coefficients on *GW*<sub>it</sub> and *IIA*<sub>it</sub> are significantly different (t+1,  $\alpha_1$  =  $\alpha_2$ , F-test = 5.44, p = 0.005; t+2,  $\alpha_1$  =  $\alpha_2$ , F-test = 5.02, p = 0.007; and t+3,  $\alpha_1$  =  $\alpha_2$ , F-test = 1.60, p = 0.203) in the two years immediately subsequent to the acquisition. This result is consistent with differences in performance across firms recognising identifiable intangible assets and goodwill, and opportunism in the accounting decision to recognise identifiable intangible assets (H<sub>2</sub>).

An issue arising from the above result is whether the higher post-acquisition performance is simply a consequence of higher pre-acquisition performance. This is addressed by the inclusion of pre-acquisition performance as a control, with the results reported in Panel B. When  $EP_{it-1}$  is included in the analysis, it is notable that none of the associations between  $EBITDA_{it+1}$ ,  $EBITDA_{it+2}$ ,  $EBITDA_{it+3}$  and  $IIA_{it}$  are significant ( $\alpha_1 = -0.038$ , t-stat = -0.84, p = 0.402;  $\alpha_1 = 0.031$ , t-stat = 0.69, p = 0.490;  $\alpha_1 = 0.072$ , t-stat = 1.30, p = 0.195 respectively). However, the relation between  $EBITDA_{it+1}$ ,  $EBITDA_{it+2}$ ,  $EBITDA_{it+3}$  and  $GW_{it}$  ( $\alpha_2 = 0.082$ , t-stat = 2.43, p = 0.015;  $\alpha_2 = 0.097$ , t-stat = 2.63, p = 0.009;  $\alpha_2 = 0.039$ , t-stat = 0.95, p = 0.343 respectively) remains positive and is significant in the first two years subsequent to the acquisition. It is also notable that the coefficients on  $GW_{it}$  and  $IIA_{it}$  are significantly different (t+1,  $\alpha_1 = \alpha_2$ , F-test = 3.69, p = 0.026; t+2,  $\alpha_1 = \alpha_2$ , F-test = 3.53, p = 0.030; and t+3,  $\alpha_1 = \alpha_2$ , F-test = 1.18, p = 0.307) in the two years immediately subsequent to the acquisition. These results provide further support for  $H_1$  and  $H_2$ .

In combination, the results in Panels A and B are consistent with firms recognising identifiable intangible assets having poorer pre-acquisition performance,

and reporting poorer post-acquisition performance than firms recognising goodwill. This is consistent with the managerial opportunism motivating the recognition of identifiable intangible assets.

Recognising that firms reporting higher performance may be more likely to report increases in performance, changes in firm performance are evaluated with controls for the level of pre-acquisition performance and the results reported in Panel C. Focusing on the changes in performance two years subsequent to the acquisition (i.e.  $EBITDA_{it+2} - EBITDA_{it+1}$ ), it is notable that the associations between  $IIA_{it}$  and  $EBITDA_{it+2} - EBITDA_{it+1}$  while positive is not significant ( $\alpha_1 = 0.037$ , t-stat = 0.97, p = 0.331). However, the association between  $GW_{it}$  and  $EBITDA_{it+2} - EBITDA_{it+2}$  is positive and significant ( $\alpha_2 = 0.072$ , t-stat = 2.31, p = 0.021). The results in the remaining tests in this panel are either not significant, or the model lacks explanatory power. Accordingly, there is further support, albeit weak, for the hypotheses linking accounting choice to firm performance.

Finally in Panel D, consideration is given to whether other variables are associated with post-acquisition performance. It is notable that the most persistent significant determinants of post-acquisition performance are pre-acquisition performance (i.e.  $EP_{it-1}$ ) and leverage (i.e.  $LEV_{it-1}$ ). Specifically, the associations between  $EBITDA_{it+1}$ ,  $EBITDA_{it+2}$ ,  $EBITDA_{it+3}$  and  $EP_{it-1}$  are all significant ( $\alpha_3 = 0.313$ , t-stat = 4.360, p = 0.000;  $\alpha_3 = 0.431$ , t-stat = 5.620, p = 0.000; and  $\alpha_1 = 0.571$ , t-stat = 7.120, p = 0.000 respectively). For  $EBITDA_{it+1}$ ,  $EBITDA_{it+2}$ ,  $EBITDA_{it+3}$  and  $LEV_{it-1}$ , the associations are also significant ( $\alpha_4 = 0.260$ , t-stat = 7.740, p = 0.000;  $\alpha_4 = 0.237$ , t-stat = 6.690, p = 0.000;  $\alpha_4 = 0.270$ , t-stat = 5.890, p = 0.000 respectively). Of the remaining variables few are significant; however, the association between  $EBITDA_{it+2}$  and  $GW_{it}$  is positive and significant ( $\alpha_2 = 0.065$ , t-

stat = 1.810, p = 0.071). Doubtless a factor contributing to this is collinearity and it is likely that accounting choice is only one aspect of opportunism.

In summary, across Table 3.4 there is evidence that firms recognising goodwill have higher pre-acquisition performance than firms recognising identifiable intangible assets. Furthermore, there is evidence of firms recognising goodwill reporting improved performance. This is not the case for firms recognising identifiable intangible assets. Accordingly, there is strong evidence supporting the accounting choice of recognising identifiable intangible assets being opportunistically motivated.

# 5.2 Impact of IFRS on the erecognition of good will or identify able intangible assets $(H_3)$

An important issue is whether the above results, indicating opportunism in the recognition of identifiable intangible assets rather than goodwill, were impacted by the adoption of IFRS (H<sub>3</sub>). Evidence of the impacts of transition to IFRS is presented in Table 3.5.

In Panel A, it is notable that the coefficient on  $IFRS_{it}$  is negative and significant in the first period immediately subsequent to the acquisition ( $\beta_3$  = -0.059, t-stat = -1.78, p = 0.076). However, this does not persist into years two and three ( $\beta_3$  = -0.010, t-stat = -0.25, p = 0.801; and  $\beta_3$  = -0.104, t-stat = -1.34, p = 0.180 respectively). This provides some assurance that the following results are not simply a reflection of differences in acquisitions and returns across the pre- and post-IFRS transition periods.

With respect to the association between identifiable intangible assets and post-acquisition performance, neither the coefficients on  $IIA_{it}$  ( $\beta_1 = -0.049$ , t-stat = -

0.940, p = 0.348;  $\beta_1$  = 0.017, t-stat = 0.340, p = 0.738;  $\beta_1$  = 0.046, t-stat = 0.760, p = 0.445 respectively) nor  $IIA_{it}*IFRS_{it}$  (B<sub>4</sub> = -0.068, t-stat = -0.570, p = 0.570;  $\beta_4$  = -0.088, t-stat = -0.630, p = 0.526;  $\beta_4$  = 0.287, t-stat = 0.290, p = 0.775 respectively) are significant. In contrast, there is a positive and significant relation between goodwill and performance in each of the years subsequent to the acquisition ( $\beta_2$  = 0.122, t-stat = 3.240, p = 0.001;  $\beta_2$  = 0.127, t-stat = 3.150, p = 0.002;  $\beta_2$  = 0.085, t-stat = 1.830, p = 0.068 respectively). Accordingly, there is no evidence of firms recognising identifiable intangible assets having higher reported performance post-acquisition in the pre-adoption of IFRS, or this changing after transition to IFRS.

Pre-acquisition performance is introduced as a control in Panel B. Consistent with the results in Table 3.4 , it is notable that pre-acquisition performance is the most important determinant of post-acquisition performance ( $\beta_3$  = 0.468, t-stat = 6.140, p = 0.000;  $\beta_3$  = 0.555, t-stat = 6.980, p = 0.000;  $\beta_3$  = 0.654, t-stat = 7.940, p = 0.000 respectively). However, neither the coefficients on  $IIA_{it}$  ( $\beta_1$  = -0.027, t-stat = -0.550, p = 0.585;  $\beta_1$  = 0.038, t-stat = 0.790, p = 0.429;  $\beta_1$  = 0.068, t-stat = 1.240, p = 0.217 respectively) nor  $IIA_{it}$  \*  $IFRS_{it}$  ( $\beta_5$  = -0.047, t-stat = -0.410, p = 0.682;  $\beta_5$  = -0.054, t-stat = -0.410, p = 0.679;  $\beta_5$  = -0.027, t-stat = -0.030, p = 0.997 respectively) are significant. Again, goodwill is positively and significantly related to post-acquisition performance in the two years subsequent to the acquisition ( $\beta_2$  = 0.099, t-stat = 2.760, p = 0.006;  $\beta_2$  = 0.096, t-stat = 2.540, p = 0.012;  $\beta_2$  = 0.049, t-stat = 1.15, p = 0.251 respectively). Accordingly, there is no evidence of firms recognising identifiable intangible assets having higher reported performance post-acquisition in the pre-adoption of IFRS, or this changing after transition to IFRS.

In Panel C, the sensitivity of the association between  $GW_{it}$  and  $IIA_{it}$  and changes in performance to the level of pre-acquisition performance is considered.

Unfortunately, these models have very limited explanatory power (likely reflecting the sample sizes) and accordingly no interpretations are made.

Finally, in Panel D the model is re-estimated with all the controls included. Consistent with the results reported above, there is no evidence of an association between identifiable intangible assets and post-acquisition performance. However, there is a significant positive relation between  $GW_{it}$  and  $EBITDA_{it+1}$  and  $EBITDA_{it+2}$  ( $\beta_2 = 0.071$ , t-stat = 2.080, p = 0.038; and  $\beta_2 = 0.065$ , t-stat = 1.770, p = 0.077 respectively). There is also a significant association between pre- and post-acquisition performance ( $\beta_3 = 0.286$ , t-stat = 3.960, p = 0.000;  $\beta_3 = 0.425$ , t-stat = 5.490, p = 0.000;  $\beta_3 = 0.568$ , t-stat = 7.040, p = 0.000 respectively). In summary, there is continuing evidence of amounts recognised as goodwill being associated with firm performance. This is not the case for identifiable intangible assets prior to transition to IFRS. Nor is there evidence of a significant change subsequent to transition to IFRS. Accordingly, there is no evidence that transition to IFRS diminished the incentives for firms to recognise goodwill rather than identifiable intangible assets (i.e. H<sub>3</sub>).

### 5.3 Se nsitivity Tests

In the tests of the hypotheses considered above,  $EBITDA_{it}$  was used as the measure of firm performance. The sensitivity of the above results to an alternative measure of performance, Operating Cash Flow ( $OCF_{it}$ ), was considered and the results are reported in Appendix 3.A. It is notable that neither identifiable intangible assets ( $\beta_2$  = -0.034, t-stat = -0.910, p = 0.362;  $\beta_2$  = 0.033, t-stat = 0.790, p = 0.433;  $\beta_2$  = 0.005, t-stat = 0.100, p = 0.917 respectively) nor goodwill ( $\beta_3$  = 0.019, t-stat = 0.620, p = 0.535;  $\beta_3$  = -0.023, t-stat = -0.730, p = 0.465;  $\beta_3$  = 0.000, t-stat = 0.000, p

= 1.000 respectively) are significantly associated with  $OCF_{it}$  in any of the three years subsequent to the acquisition (see Table 3.A.4). Similar results are reported in Panels B to D. The absence of a significant relation between either identifiable intangible assets or goodwill suggests that the impact of acquisitions on cash flow is varied, and that opportunism is likely motivated by accounting measures of performance rather than cash flows. This outcome is not unexpected.

The issue of whether there are differences in the stock market performance of firms recognising identifiable intangible assets or goodwill is also considered, with the results reported in Appendix 3.B. It is notable that there is no significant association between market adjusted stock returns and identifiable intangible assets in the three years subsequent to the acquisition (see Table 3.B.4). However, there is weak evidence of an association between firm performance and goodwill in the third year after the acquisition, once controls for prior performance are introduced. This provides some comfort that the opportunism previously identified is generally recognised by the market and reflected in stock prices.

# 6. Summary and Conclusion

The objective of this chapter was to evaluate whether firms which allocate acquisition premiums to identifiable intangible assets report increases in post-acquisition performance, and whether post-acquisition performance differs for firms recognising goodwill. Consideration is also given as to whether this changed subsequent to transition to IFRS when the 'opportunistic' incentives to recognise identifiable intangible assets ended.

Based on a sample of 367 firms in Australia, evidence is provided that amounts recognised as goodwill are generally associated with firm performance and

increases in firm performance subsequent to an acquisition. This is not the case for amounts recognised as identifiable intangible assets. This result is consistent with managerial opportunism in investment decision making also being reflected in accounting choice. Specifically, the higher acquisition premiums recognised in Chapter 2 are likely 'overpayment', and identifiable intangible assets are recognised to obscure this. Interestingly, this continues subsequent to the transition to IFRS when the accounting incentives for recognising identifiable intangible assets rather than goodwill were diminished. However, this may be impacted by the limited number of observations in the post-IFRS period.

This chapter contributes to the literature evaluating the incentives for firms to undertake acquisitions. Specifically, it identifies acquisitions where identifiable intangible assets (goodwill) as being less (more) likely to be associated with performance increases and more (less) likely to be opportunistically motivated. This also provides evidence that opportunism, which motivates investment decisions, is also likely to manifest in accounting choices. This has implications for studies evaluating accounting choices more generally.

Table 3.1: Sample identification and description

Panel A: Sample process	
	Number
Full SDC database as at December 2009	28,230
Removal of firms with incomplete status	8,499
Removal of firms with non-Australian GAAP	7,349
Removal of firms with more than 50% pre-takeover and less than 50%	
post-takeover ownership in the target	3,164
Removal of firms with missing competitor's data	4,581
Removal of firms with missing defensive tactics data	3,928
Removal of firms with missing director's recommendations and expert's	
conclusion	203
Removal of firms with missing annual reports in the transaction year	19
Removal of firms with missing CRIF data	87
Removal of firms with missing accounting data for year one after	
takeover	33
Total Firms	367
Removal of firms with missing accounting data for year two after	
takeover	28
Removal of firms with missing accounting data for year three after	
takeover	30
Final sample	309

Table 3.1 (cont.): Sample identification and description

Panel B: Distribution	on of sample by calendar	year	
Year	T+1	T+2	T+3
1988	1	1	1
1989	7	7	7
1990	6	6	6
1991	6	6	6
1992	6	6	6
1993	14	14	14
1994	9	9	9
1995	18	18	18
1996	26	26	26
1997	17	17	17
1998	19	19	19
1999	24	24	24
2000	34	34	34
2001	25	25	25
2002	16	16	16
2003	21	21	21
2004	23	23	23
2005	26	26	26
2006	28	28	11
2007	30	13	0
2008	11	0	0
Total	367	339	309

Table 3.1 (cont.): Sample identification and description

Panel C: Distribution of sample by acquirer's Industry			
Industry/Year	T+1	T+2	T+3
Energy	16	16	14
Chemicals	4	4	4
Construction Materials	4	4	4
Paper & Forest Products	2	2	2
Metals & Mining	99	93	83
Capital Goods	7	6	6
Commercial Services & Supplies	18	17	13
Transportation	10	9	9
Automobiles & Components	0	0	0
Consumer Durables & Apparel	3	3	3
Consumer Services	17	17	16
Media	3	2	2
Retailing	19	17	16
Food & Drug Retailing	0	0	0
Food Beverage & Tobacco	21	21	21
Healthcare Equipment & Services	6	6	6
Pharmaceuticals & Biotechnology	8	6	4
Banks	15	11	9
Diversified Financials	58	54	53
Insurance	3	3	2
Real Estate excluding Investment Trusts	5	5	3
Real Estate Investment Trusts	14	13	12
Software & Services	4	4	4
Technology Hardware & Equipment	1	1	1
Telecommunications Services	22	17	15
Utilities	8	8	7
Total	367	339	309

**Table 3.2: Descriptive statistics for sample** 

Panel A: Dependent variables											
	Mean	Median	SD	Minimum	Maximum	N					
$EBITDA_{it+1}$	0.129	0.123	0.216	-0.376	0.604	367					
$EBITDA_{it+2}$	0.155	0.131	0.213	-0.259	0.726	339					
$EBITDA_{it+3}$	0.154	0.121	0.233	-0.304	0.755	309					
$EBITDA_{it2-1}$	-0.006	0.000	0.169	-0.450	0.354	339					
$EBITDA_{it3-2}$	0.010	0.000	0.153	-0.294	0.389	309					
$EBITDA_{it3-1}$	0.002	0.001	0.200	-0.480	0.477	309					

Panel B: Independent variable	les					
	Mean	Median	SD	Minimum	Maximum	N
$IIA_{it}$	0.112	0.000	0.238	0.000	0.866	367
$GW_{it}$	0.232	0.023	0.318	0.000	0.964	367
$IFRS_{it}$	0.191	0.000	0.393	0.000	1.000	367
$IIA_{it} * IFRS_{it}$	0.021	0.000	0.113	0.000	0.866	367
$EP_{it-1}$	0.043	0.048	0.141	-0.316	0.425	367
$MTB_{it-1}$	1.668	1.303	1.442	-0.212	5.333	367
$LEV_{it-1}$	0.243	0.129	0.328	0.000	1.234	367
$RELSZ_{it-1}$	0.593	0.315	0.685	0.011	2.656	367
$MOOD_{it}$	0.087	0.000	0.283	0.000	1.000	367
$METHOD_{it}$	0.030	0.000	0.171	0.000	1.000	367
$RELNS_{it}$	0.643	1.000	0.480	0.000	1.000	367

$EBITDA_{it+1}$	:	EBITDA,	deflated by	the	acquiring	firm	's market	value at	the end
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of financial year one following the business combination

 $EBITDA_{it+2}$ : EBITDA, deflated by the acquiring firm's market value at the end

of financial year two following the business combination

 $EBITDA_{it+3}$ : EBITDA, deflated by the acquiring firm's market value at the end

of financial year three following the business combination

 $\begin{array}{lll} EBITDA_{it2-1} & : & EBITDA_{it+2}\text{-}EBITDA_{it+1} \\ EBITDA_{it3-2} & : & EBITDA_{it+3}\text{-}EBITDA_{it+2} \\ EBITDA_{it3-1} & : & EBITDA_{it+3}\text{-}EBITDA_{it+1} \end{array}$ 

 $IIA_{it}$ : the amount of the takeover purchase price allocated to identifiable

intangible assets, deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the

effective date of the business combination

 $GW_{it}$ : the amount of the takeover purchase price allocated to goodwill,

deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the effective date of the

business combination

 $IFRS_{it}$  : one if the takeover effectiveness is in the post-IFRS period; zero

otherwise

 $EP_{it-1}$ : ratio of the acquirer earnings (per share) to acquirer's share price

after tax before interest at the end of financial year t-1

 $MTB_{it-1}$ : ratio of the acquirer's market value to the acquirer's book value

of assets at the end of financial year t-1

 $LEV_{it-1}$ : ratio of the acquirer's long-term debt to the acquirer's market

value at the of financial year t-1

 $RELSZ_{it-1}$ : ratio of the target's market value to the acquirer's market value at

the end of financial year t-1

 $MOOD_{it}$  : one if the bidder has hostile mood in place; zero otherwise.  $METHOD_{it}$  : one if the bidder has cash bids in place; zero otherwise  $RELNS_{it}$  : if both bidder and target were in the same industry; zero

otherwise

**Table 3.3: Correlation matrix for sample firm years** 

Variable	A	В	С	D	Е	F	G	Н	I	J	K	L
A. $EBITDA_{it+1}$	1.000	0.638	0.613	-0.095	0.155 0	.331	-0.190 0	.479	-0.029	0.091	0.057	-0.064
B. $EBITDA_{it+2}$	0.733	1.000	0.766	-0.017	0.170 0	.369	-0.086	0.424	0.003	0.112	-0.034	-0.010
C. $EBITDA_{it+3}$	0.647	0.712	1.000	0.039	0.090	0.419	-0.024	0.367	-0.047	0.128	-0.049	-0.084
D. IIA <sub>it</sub>	0.001	0.060	0.105	1.000	-0.152	-0.108	0.090	-0.085	-0.018	0.000	0.036	-0.009
E. $GW_{it}$	0.272 0.	265 0.	157	-0.016	1.000	0.086	0.162 0	.148	-0.103	0.020	-0.028	-0.172
F. $EP_{it-1}$	0.372 0.	429 0.	346	-0.029	0.135	1.000	-0.072	0.278	-0.075	-0.009	0.062	-0.009
G. $MTB_{it-1}$	-0.139	-0.055	0.042	0.063	0.079	-0.045	1.000	-0.367	-0.100	-0.010	0.026	-0.056
H. $LEV_{it-1}$	0.545 0.	451 0.	390	-0.037	0.2160	.348	-0.249	1.000	0.020	-0.001	-0.041	-0.047
I. $RELSZ_{it-1}$	-0.077	-0.084	-0.078	-0.076	-0.144	-0.099	-0.086	-0.141	1.000	-0.056	0.042	0.010
J. $MOOD_{it}$	0.100	0.123	0.120	0.045	0.045	0.033	0.027	0.051	-0.057	1.000	0.116	-0.112
K. $METHOD_{it}$	0.034	-0.043	-0.019	0.017	-0.051	-0.002	0.016	-0.024	-0.007	0.116	1.000	0.031
L. RELNS <sub>it</sub>	-0.083	-0.035	-0.067	-0.023	-0.169	-0.039	-0.055	-0.043	0.088	-0.112	0.031	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold.

All variables as previously defined.

Table 3.4: The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel A: R	Panel A: Relation of identifiable intangible assets and goodwill with firm performance											
	<i>EBITDA</i> <sub>it+1</sub> (n=367)			EBIT	$DA_{it+2}$ (n=	-339)	EBIT	$DA_{it+3}$ (n=	309)			
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value			
Constant	0.114	7.450	0.000 ***	0.129	8.420	0.000 ***	0.134	7.670	0.000 ***			
$IIA_{it}$	-0.066	-1.390	0.165	0.005	0.100	0.922	0.051	0.850	0.395			
$GW_{it}$	0.098	2.750	0.006 ***	0.123	3.150	0.002 ***	0.075	1.660	0.099 *			
Adjusted R <sup>2</sup>	0.024			0.023			0.004					
F-stat	5.440		0.005 ***	5.020		0.007 ***	1.600		0.203			

Panel B: R	Panel B: Relation of identifiable intangible assets and goodwill with firm performance with control for pre-acquisition performance										
	EBIT	$DA_{it+1}$ (n=	367)	EBIT	$DA_{it+2}$ (n=	=339)	EBIT	$EBITDA_{it+3}$ (n=309)			
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value		
Constant	0.094	6.290	0.000 ***	0.103	6.990	0.000 ***	0.102	6.210	0.000 ***		
$IIA_{it}$	-0.038	-0.840	0.402	0.031	0.690	0.490	0.072	1.300	0.195		
$GW_{it}$	0.082	2.430	0.015 **	0.097	2.630	0.009 ***	* 0.039	0.950	0.343		
$EP_{it-1}$	0.483	6.390	0.000 ***	0.557	7.040	0.000 ***	0.657	7.990	0.000 ***		
Adjusted R <sup>2</sup>	0.120			0.147			0.174				
F-stat	17.63		0.000 ***	20.360		0.000 ***	* 22.590		0.000 ***		

Table 3.4 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel C: Relation of identifiable intangible assets and goodwill with changes in firm performance with control for pre-acquisition

performance

periormane										
	$EBITDA_{it+2}$	$_{2}$ - $EBITDA_{i}$	t+1 (n=339)	$EBITDA_{it+3}$	$-EBITDA_i$	t+2  (n=309)	$EBITDA_{it+3}$ - $EBITDA_{it+1}$ (n=309)			
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value	
Constant	-0.019	-1.500	0.133	0.004	0.350	0.725	-0.008	-0.510	0.613	
$IIA_{it}$	0.037	0.970	0.331	0.045	1.130	0.260	0.094	1.810	0.072 *	
$GW_{it}$	0.072	2.310	0.021 **	-0.037	-1.250	0.211	0.006	0.140	0.887	
$EP_{it-1}$	-0.114	-1.680	0.093 *	0.144	2.440	0.015 **	-0.021	-0.270	0.790	
Adjusted R <sup>2</sup>	0.015			0.017			0.001			
F-stat	2.720		0.044 **	2.740		0.044 **	1.130		0.3337	

Table 3.4 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel D: Relation of identifiable intangible assets and goodwill with firm performance with controls for pre-acquisition performance and characteristics of the acquisition

	EBIT	$DA_{it+1}$ (n=	=367)	EBIT	$DA_{it+2}$ (n=	=339)	EBIT	$DA_{it+3}$ (n=	309)
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value
Constant	0.057	2.080	0.038 **	0.030	1.050	0.295	0.047	1.430	0.154
$IIA_{it}$	-0.023	-0.560	0.577	0.047	1.110	0.268	0.086	1.650	0.099 *
$GW_{it}$	0.051	1.590	0.114	0.065	1.810	0.071 *	-0.016	-0.410	0.685
$EP_{it-1}$	0.313	4.360	0.000 ***	0.431	5.620	0.000 ***	0.571	7.120	0.000 ***
$MTB_{it-1}$	-0.007	-0.890	0.376	0.006	0.730	0.467	0.016	1.550	0.122
$LEV_{it-1}$	0.260	7.740	0.000 ***	0.237	6.690	0.000 ***	0.270	5.890	0.000 ***
$RELSZ_{it-1}$	-0.005	-0.360	0.721	0.008	0.540	0.592	-0.001	-0.110	0.914
$MOOD_{it}$	0.062	1.800	0.073 *	0.093	2.630	0.009 ***	0.108	2.730	0.007 ***
$METHOD_{it}$	0.071	1.250	0.212	-0.073	-1.220	0.222	-0.133	-2.04	0.042 **
$RELNS_{it}$	-0.012	-0.570	0.568	0.013	0.600	0.550	-0.032	-1.320	0.189
Adjusted R <sup>2</sup>	0.274			0.258			0.274		
F-stat	16.360		0.000 ***	14.070		0.000 ***	13.940		0.000 ***

### Where:

$$Perf_{it} = \propto_0 + \propto_1 IIA_{it} + \propto_2 GW_{it} + \sum_{j=3}^9 \propto_j Control_{jit} + \varepsilon_{it}$$
 .....(1) All variables as previously defined

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

Table 3.5: The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel A: Relation of identifiable intangible assets and goodwill with firm performance											
	EBIT	$DA_{it+1}$ (n=	=367)	EB	$ITDA_{it+2}$ (n=3	339)		EBIT	$EBITDA_{it+3}$ (n=309)		
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-va	ılue	Coefficient	t-stat	p-val	ue
Constant	0.119	7.650	0.000 **	** 0.129	8.260	0.000	***	0.136	7.750	0.000	***
$IIA_{it}$	-0.049	-0.940	0.348	0.017	0.340	0.738		0.046	0.760	0.445	
$GW_{it}$	0.122	3.240	0.001 **	** 0.127	3.150	0.002	***	0.085	1.830	0.068	*
$IFRS_{it}$	-0.059	-1.780	0.076 *	-0.010	-0.250	0.801		-0.104	-1.340	0.180	
$IIA_{it} * IFRS_{it}$	-0.068	-0.570	0.570	-0.088	-0.630	0.526		0.287	0.290	0.775	
Adjusted R <sup>2</sup>	0.033			0.020				0.003			
F-stat	4.08		0.003 **	** 2.68		0.032	**	1.28		0.279	

Panel B: Rela	ation of identifi	able intan	gible assets	and	goodwill with	firm perfor	rmance	with co	ontrol for pre-ac	quisition p	erformai	nce
	EBIT	$DA_{it+1}$ (n	=367)		$EBITDA_{it+2}$ (n=339)				$EBITDA_{it+3}$ (n=309)			
	Coefficient	t-stat	p-value		Coefficient	t-stat	p-value		Coefficient	t-stat	p-value	
Constant	0.098	6.410	0.000 **	<b>*</b> *	0.103	6.800	0.000	***	0.103	6.260	0.000	***
$IIA_{it}$	-0.027	-0.550	0.585		0.038	0.790	0.429		0.068	1.240	0.217	
$GW_{it}$	0.099	2.760	0.006 **	**	0.096	2.540	0.012	**	0.049	1.150	0.251	
$EP_{it-1}$	0.468	6.140	0.000 **	**	0.555	6.980	0.000	***	0.654	7.940	0.000	***
$IFRS_{it}$	-0.040	-1.270	0.206		0.005	0.140	0.885		-0.076	-1.090	0.278	
$IIA_{it}$												
* IFRS <sub>it</sub>	-0.047	-0.410	0.682		-0.054	-0.410	0.679		-0.027	-0.030	0.977	
Adjusted R <sup>2</sup>	0.122				0.142				0.172			
F-stat	11.13		0.000 **	<b>*</b> *	12.18		0.000	***	13.83		0.000	***

Table 3.5 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel C: Relation of identifiable intangible assets and goodwill with changes in firm performance with control for pre-acquisition performance												
	$EBITDA_{it+2}$ - $EBITDA_{it+1}$ (n=339)				$EBITDA_{it+1}$	3-EBITDA <sub>it</sub>	+2 (n=309)	$EBITDA_{it+3}$ - $EBITDA_{it+1}$ (n=309)				
	Coefficient	t-stat	p-value		Coefficient	t-stat	p-value	Coefficient	t-stat	p-valı	/alue	
Constant	-0.023	-1.750	0.081	*	0.005	0.380	0.705	-0.008	-0.530	0.596		
$IIA_{it}$	0.045	1.080	0.279		0.044	1.100	0.274	0.094	1.810	0.072	*	
$GW_{it}$	0.062	1.940	0.053	*	-0.038	-1.240	0.215	0.001	0.040	0.971		
$EP_{it-1}$	-0.108	-1.590	0.112		0.143	2.410	0.016 **	-0.020	-0.260	0.798		
$IFRS_{it}$	0.043	1.390	0.167		-0.009	-0.180	0.859	0.025	0.370	0.710		
$IIA_{it} * IFRS_{it}$	-0.061	-0.560	0.578		0.202	0.300	0.761	0.130	0.150	0.881		
Adjusted R <sup>2</sup>	0.015				0.010			0.000				
F-stat	2.02		0.076	*	1.65		0.146	0.73		0.604		

Table 3.5 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel D: Relation of identifiable intangible assets and goodwill with firm performance with controls for pre-acquisition performance and characteristics of the acquisition

	EBIT	$DA_{it+1}$ (n	<i>EBITDA</i> <sub>it+2</sub> (n=339)				EBITDA <sub>it+3</sub> (n=309)					
	Coefficient	t-stat	p-val	ue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-val	lue
Constant	0.055	1.990	0.047	**	0.028	0.980	0.330		0.047	1.430	0.153	
$IIA_{it}$	-0.002	-0.040	0.970		0.060	1.330	0.184		0.085	1.620	0.106	
$GW_{it}$	0.071	2.080	0.038	**	0.065	1.770	0.077	*	-0.010	-0.240	0.812	
$EP_{it-1}$	0.286	3.960	0.000	***	0.425	5.490	0.000	***	0.568	7.040	0.000	***
$IFRS_{it}$	-0.047	-1.630	0.104		0.002	0.060	0.954		-0.041	-0.590	0.557	
$IIA_{it}$			0.308									
$*IFRS_{it}$	-0.106	-1.020			-0.101	-0.830	0.410		-0.033	-0.040	0.970	
$MTB_{it-1}$	-0.005	-0.660	0.508		0.006	0.780	0.434		0.015	1.490	0.137	
$LEV_{it-1}$	0.269	8.010	0.000	***	0.240	6.720	0.000	***	0.269	5.830	0.000	***
$RELSZ_{it-1}$	-0.007	-0.460	0.643		0.007	0.460	0.646		-0.001	-0.030	0.974	
$MOOD_{it}$	0.063	1.830	0.068	*	0.094	2.660	0.008	***	0.110	2.760	0.006	***
$METHOD_{it}$	0.087	1.530	0.127		-0.067	-1.100	0.272		-0.122	-1.800	0.073	*
$RELNS_{it}$	-0.007	-0.320	0.741		0.014	0.640	0.521		-0.031	-1.300	0.196	
Adjusted R <sup>2</sup>	0.282				0.255				0.271			
F-stat	14.09		0.000	***	11.540		0.000	***	11.39		0.000	***

Where:

$$Perf_{it} = \beta_0 + \beta_1 IIA_{it} + \beta_2 GW_{it} + \beta_3 IFRS_{it} + \beta_4 IIA_{it}. IFRS_{it} + \sum_{j=6}^{12} \beta_j Control_{jit} + \varepsilon_{it} \dots (2)$$
 All variables as previously defined

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# **Chapter 4: Conclusion**

This thesis expanded on current knowledge by providing evidence of the relation between recognised identifiable intangible assets in business combinations, and both acquisition gains and post-acquisition profitability of combined firms in the Australian share market over the period 1988-2008. Specifically, the association between takeover premiums paid and the relative allocation of the acquisition purchase price to identifiable intangible assets has been examined in the periods before and after Australia adopted the International Financial Reporting Standards (IFRS). Furthermore, this thesis has investigated the impact of the recognition of identifiable intangible assets acquired in business combinations on the post-acquisition financial performance of the combined firm.

Chapter 2 provided evidence of the association between identifiable intangible assets recognised in business combinations and the acquisition purchase price. Specifically, Chapter 2 demonstrated that in the period 1988-2004 in Australia, there is a significantly positive relation between the relative proportion of the takeover premium allocated to identifiable intangible assets and the acquisition purchase price. Acquiring firms were willing to pay a higher acquisition premium in order to employ identifiable intangible assets as a device for avoiding the recognition of goodwill and its amortisation in subsequent years.

Australia implemented IFRS at the beginning of 2005. This required firms to subject both identifiable intangible assets and goodwill to an impairment test each year based on estimated fair values of cash generating units and identifiable net assets. Thus,

they are no longer treated differently. Chapter 2 predicted, and found, that this change in accounting treatment affected the relation between identifiable intangible assets and the takeover purchase price paid in the Australian share market subsequent to 2005. Specifically, the relation between the recognition of acquired identifiable intangible assets and the acquisition premium has become weaker. It is consistent with the adoption of IFRS, removing firms' major incentive to employ the 'accounting benefit' - related to the avoidance of goodwill amortisation - which enabled firms to present an enhanced financial statement after a business combination.

The results obtained in Chapter 2 have added to the existing US research which has indicated that US pooling firms, being required to satisfy a number of stringent rules, were willing to pay a higher premium in order to avoid having to amortise goodwill. The pooling method is not allowed in Australia. Therefore, relative to pooling firms in the US, a wide range of Australian firms were able to access the purported reporting benefits attached to identifiable intangible assets recognised in a business combination. This chapter has found that Australian firms were willing to pay higher takeover premiums for avoiding the recognition of goodwill in a business combination.

It is also noted that, to date, researchers have made little use of data available by examining the relative allocation of the acquisition purchase to identifiable intangible assets, goodwill and other net assets of combined firms. This data can be, and was for this thesis, hand-collected from the Business Acquired footnote in an acquirer's immediate post-acquisition statement of Cash Flows. By using this available data, Chapter 2 has attempted to examine the recognition of acquired identifiable intangible assets and the

takeover premium in both pre- and post-IFRS. Therefore, it is believed that this thesis is the first to do so.

Chapter 3 investigated whether the recognition of identifiable intangible assets is associated with real value, as represented by the subsequent financial performance of the combined firm. Specifically, Chapter 3 investigated: (i) whether combined firms recognising a higher amount of acquired identifiable intangible assets from the acquisition purchase experience lower post-acquisition profitability; and (ii) whether this relation changed when the incentive to recognise identifiable intangible assets was eliminated with the transition to IFRS in 2005.

Chapter 3 found, consistent with the predictions, that in Australia amounts recognised as goodwill are associated with firm performance, and increases in firm performance. This is not the case for amounts recognised as identifiable intangible assets. This result is consistent with managerial opportunism in investment decision making, and suggests that the higher acquisition premiums recognised in Chapter 2 are likely 'overpayment'. Furthermore, there is also opportunism in the accounting policy choice with the recognition of identifiable intangible assets rather than goodwill. Interestingly, this continues subsequent to the transition to IFRS when the accounting incentives for recognising identifiable intangible assets rather than goodwill were diminished.

Although there is a spectrum of component intangible assets associated with each takeover, this thesis is based on aggregate identifiable intangible asset measures. In order to understand better the connection between decisions made by an acquiring firm and its post-acquisition financial performance, this thesis could be extended by decomposing the aggregate of acquired intangible assets into its component parts. For instance, this could

be achieved by utilising brands, patents, licences, capitalised research and development, intellectual property rights, software, contracts, and so on (Chalmers, Clinch & Godfrey 2008).

Furthermore, although this thesis has made no comparisons with other countries other than the US, it could be extended to a multi-country setting. Selecting countries which have utilised similar accounting standards as Australia may shed additional light on the takeover policies adopted by firms.

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## Appendix 2.A

**Table 2.A.1: Sample selection** 

Sample Process	
	Number
Full SDC database as at December 2009	28,230
Removal of firms with incomplete status	8,499
Removal of firms with non-Australian GAAP	7,349
Removal of firms with more than 50% pre-takeover and less than 50%	
post-takeover ownership in the target	3,164
Removal of firms with missing competitor's data	4,581
Removal of firms with missing defensive tactics data	3,928
Removal of firms with missing director's recommendations and expert's	
conclusion	203
Removal of firms with missing annual reports in the transaction year	19
Removal of firms with missing CRIF data	87
Total firms remaining	400
Removal of firms with overlapping windows for the LHS variable	57
Final Sample	343

Table 2.A.2: Distribution of sample by calendar year and acquirer's industry

Panel A: Distribu	tion of sample by caler	ndar year	
Year/Model	Pre-IFRS	Post-IFRS	Full sample
1988	1		1
1989	6		6
1990	7		7
1991	7		7
1992	6		6
1993	12		12
1994	9		9
1995	15		15
1996	23		23
1997	16		16
1998	15		15
1999	27		27
2000	28		28
2001	25		25
2002	16		16
2003	18		18
2004	15		15
2005	20	1	21
2006		29	29
2007		31	31
2008		16	16
Total	266	77	343

Table 2.A.2 (cont.): Distribution of sample by calendar year and acquirer's industry

Panel B: Distribution of sample by acquirer	's Industry		
Industry/Model	Pre-IFRS	Post-IFRS	Full sample
Energy	16	4	20
Chemicals	4	0	4
Construction Materials	5	3	8
Paper & Forest Products	1	0	1
Metals & Mining	73	20	93
Capital Goods	0	0	0
Commercial Services & Supplies	21	8	29
Transportation	7	2	9
Automobiles & Components	0	0	0
Consumer Durables & Apparel	4	0	4
Consumer Services	1	1	2
Media	2	1	3
Retailing	15	3	18
Food & Drug Retailing	22	5	27
Food Beverage & Tobacco	1	0	1
Healthcare Equipment & Services	8	1	9
Pharmaceuticals & Biotechnology	0	0	0
Banks	8	5	13
Diversified Financials	38	11	49
Insurance	2	1	3
Real Estate excluding Investment Trusts	12	1	13
Real Estate Investment Trusts	0	0	0
Software & Services	4	1	5
Technology Hardware & Equipment	7	0	7
Telecommunications Services	9	7	16
Utilities	0	0	0
not specified	6	3	9
Total	266	77	343

**Table 2.A.3: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	4.220	0.017	32.648	-58.728	416.432	266
$IIA_{it}$	0.144	0.000	0.403	0.000	4.253	266
$OTHER_{it}$	3.218	0.146	19.955	-1.209	249.601	266
IIA_Dummy <sub>it</sub>	0.357	0.000	0.480	0.000	1.000	266
$TNI_{it}$	0.185	0.010	1.153	-1.037	17.403	266
$LEV_{it}$	0.977	0.033	4.056	0.000	40.987	266
$TOE_{it}$	13.828	0.000	21.696	0.000	94.500	266
$TER_{it}$	95.812	100.000	11.240	50.100	100.000	266
$CBID_{it}$	0.079	0.000	0.270	0.000	1.000	266
$RELSZ_{it}$	1.326	0.287	9.687	0.001	146.678	266
$MKTBK_{it}$	4.198	1.213	72.478	-580.459	929.191	266
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	266
_LIQ <sub>it</sub>	1.275	0.305	5.733	0.001	85.510	266

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.200	0.045	8.820	-9.019	75.940	77
$IIA_{it}$	0.205	0.000	0.753	0.000	5.555	77
$OTHER_{it}$	1.456	0.065	8.837	-0.484	76.940	77
IIA_Dummy <sub>it</sub>	0.273	0.000	0.448	0.000	1.000	77
$TNI_{it}$	0.135	0.007	0.436	-0.229	3.005	77
$LEV_{it}$	0.411	0.011	2.117	0.000	18.453	77
$TOE_{it}$	9.039	0.000	17.824	0.000	82.800	77
$TER_{it}$	93.470	100.000	13.763	51.300	100.000	77
$CBID_{it}$	0.104	0.000	0.307	0.000	1.000	77
$RELSZ_{it}$	0.528	0.295	1.124	0.000	9.642	77
$MKTBK_{it}$	2.007	1.996	14.784	-76.745	43.160	77
$DEFMES_{it}$	0.039	0.000	0.195	0.000	1.000	77
$LIQ_{it}$	0.773	0.262	2.042	0.007	15.380	77

Table 2.A.3 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	3.542	0.020	29.065	-58.728	416.432	343
$IIA_{it}$	0.158	0.000	0.502	0.000	5.555	343
$OTHER_{it}$	2.823	0.133	18.068	-1.209	249.601	343
IIA_Dummy <sub>it</sub>	0.338	0.000	0.474	0.000	1.000	343
$IFRS_{it}$	0.224	0.000	0.418	0.000	1.000	343
$IIA_{it} * IFRS_{it}$	0.046	0.000	0.365	0.000	5.555	343
$TNI_{it}$	0.174	0.010	1.036	-1.037	17.403	343
$LEV_{it}$	0.850	0.026	3.714	0.000	40.987	343
$TOE_{it}$	12.753	0.000	20.961	0.000	94.500	343
$TER_{it}$	95.286	100.000	11.872	40.100	100.000	343
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	343
$RELSZ_{it}$	1.147	0.288	8.550	0.000	146.678	343
$MKTBK_{it}$	3.706	1.301	64.186	-580.459	929.191	343
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	343
$LIQ_{it}$	1.162	0.290	5.142	0.001	85.510	343

 $PREM_{it}$ : the acquisition price less the target's market value, deflated by the

acquiring firm's market value at the end of the month, 2 months prior

to the takeover effective month

 $IIA_{it}$ : the proportion of the acquisition price allocated to identifiable

intangible assets

 $OTHER_{it}$ : the amount of acquisition price allocated to liabilities and assets

other than IIA and GW, deflated by the acquiring firm's market value at the end of the month, 2 months prior to the takeover

effective month

IIA\_Dummy<sub>it</sub> one if the amount of identifiable intangible assets is more than zero,

zero otherwise

 $IFRS_{it}$  : one if the takeover effectiveness is in the post-IFRS period; zero

otherwise

 $TNI_{it}$ : the target earnings in the year of the acquisition prior to the effective

date of a business combination, deflated by the acquiring firm's market value at the end of the month, 2 months prior to the takeover

effective month

 $LEV_{it}$ : ratio of the target's long-term debt to the target's market value at the

end of the month, 2 months prior to the takeover effective month

 $TOE_{it}$ : the acquirer's pre-takeover ownership percentage in the target firm $TER_{it}$ : the acquirer's post-takeover ownership percentage in the target firm $CBID_{it}$ : one if there was a competing bidder for the target; zero otherwise $RELSZ_{it}$ : ratio of the target's market value to the acquiring firm's market value

at the end of the month, 2 months prior to the takeover effective

month

: ratio of the target's market value at the end of the month, 2 months  $MKTBK_{it}$ 

prior to the takeover effective month to the target's book value of

: one if the target has defensive measures in place; zero otherwise  $DEFMES_{it}$  $LIQ_{it}$ 

: ratio of the target's cash, short-term investments, and accounts

receivable to the target's market value at the end of the month, 2

months prior to the takeover effective month

**Table 2.A.4: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.047
B. $IIA_{it}$	0.062	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. $PREM_{it}$	1.000	0.047	0.621	0.102	-0.043	-0.015	0.003	0.043	-0.042
B. IIA <sub>it</sub>	0.062	1.000	-0.043	0.440	0.051	0.699	0.063	-0.040	0.016
C. OTHER <sub>it</sub>	0.481	-0.251	1.000	0.050	-0.041	-0.020	0.083	0.083	-0.027
D. IIA_Dummy <sub>it</sub>	0.092	0.972	-0 .188	1.000	-0.074	0.177	0.058	-0.031	0.043
E. IFRS <sub>it</sub>	0.068	-0.063	-0.096	-0.074	1.000	0.235	-0.020	-0.064	-0.095
F. $IIA_{it} * IFRS_{it}$	0.038	0.367	-0.140	0 .357	0.474	1.000	-0.018	-0.018	-0.029
G. TNI <sub>it</sub>	0.036	-0.043	0.137	-0.032	-0.039	-0.028	1.000	0.088	-0.062
H. $LEV_{it}$	0.021	0.001	0.023	-0.008	-0.095	-0.016	0.300	1.000	0.034
I. $TOE_{it}$	0.008	0.021	-0.023	0.018	-0.100	-0.096	-0.032	-0.009	1.000

Panel C:	A	В	J	K	L	M	N	O
A. PREM <sub>it</sub>	1.000	0.047	0.012	-0.033	-0.032	-0.122	-0.027	0.002
B. IIA <sub>it</sub>	0.062	1.000	-0.029	-0.054	0.063	-0.034	0.025	-0.033
J. $TER_{it}$	-0.012	0.000	1.000	-0.029	-0.011	0.134	-0.026	-0.026
K. CBID <sub>it</sub>	-0.090	-0.082	-0.019	1.000	-0.029	-0.011	0.134	-0.026
L. $RELSZ_{it}$	-0.087	-0.105	0.050	-0.109	1.000	0.139	-0.030	-0.010
M. $MKTBK_{it}$	-0.215	-0.002	0.131	0.034	0.024	1.000	-0.007	-0.010
N. DEFMES <sub>it</sub>	-0.036	0.067	-0.016	0.134	-0.098	0.034	1.000	-0.020
O. LIQ <sub>it</sub>	0.181	0.032	-0.103	-0.062	-0.144	-0.300	-0.009	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

Table 2.A.5: Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=266)		PREM	$I_{post-IFRS}$ (1	n=77)		PREM	full period (1	n=343)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-1.940	-0.140	0.891		0.441	1.160	0.250		-0.561	-0.050	0.957	
$IIA_{it}$	8.738	2.190	0.030	**	-0.010	-0.140	0.888		8.685	2.470	0.014	***
$OTHER_{it}$	1.011	12.580	0.000	***	0.999	161.780	0.000	***	1.008	14.680	0.000	***
$IFRS_{it}$									-0.496	-0.160	0.874	
$IIA_{it} * IFRS_{it}$									-8.567	-1.730	0.084	*
$TNI_{it}$	-1.983	-0.690	0.492		0.236	1.740	0.086	*	-1.758	-0.750	0.456	
$LEV_{it}$	0.014	0.030	0.972		-0.018	-0.750	0.454		0.004	0.010	0.990	
$TOE_{it}$	-0.077	-1.020	0.311		-0.001	-0.180	0.855		-0.064	-1.060	0.292	
$TER_{it}$	0.035	0.240	0.809		-0.002	-0.450	0.652		0.019	0.180	0.859	
$CBID_{it}$	-0.621	-0.100	0.918		-0.266	-1.550	0.126		-0.353	-0.080	0.937	
$RELSZ_{it}$	0.025	0.070	0.941		-1.020	-19.320	0.000	***	0.000	0.000	1.000	
$MKTBK_{it}$	-0.051	-2.240	0.026	**	0.003	0.760	0.452		-0.050	-2.500	0.013	***
$DEFMES_{it}$	0.056	0.010	0.992		-0.242	-0.890	0.378		-0.207	-0.050	0.964	
$LIQ_{it}$	-0.034	-0.120	0.904		0.029	1.140	0.260		-0.034	-0.140	0.886	
Adjusted R <sup>2</sup>	0.375				0.998				0.390			
F-stat	15.460		0.000	***	2746.720		0.000	***	17.840		0.000	***

Table 2.A.5 (cont.): Summary OLS regression results for the observations

	PREM	$REM_{pre-IFRS}$ (n=266)			PREM	$I_{post-IFRS}$ (1	n=77)		$PREM_{1}$	full period (r	n=343)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.641	-0.190	0.852		0.444	1.190	0.240		-1.003	-0.100	0.924	
$IIA_{it}$	7.664	1.680	0.093	*	-0.060	-0.790	0.430		7.795	2.000	0.047	**
$OTHER_{it}$	1.007	12.450	0.000	***	0.999	164.070	0.000	***	1.005	14.570	0.000	***
$IIA\_Dummy_{it}$	1.901	0.500	0.620		0.233	1.700	0.094	*	1.562	0.520	0.602	
$IFRS_{it}$									-0.428	-0.140	0.891	
$IIA_{it} * IFRS_{it}$									-8.078	-1.600	0.110	
$TNI_{it}$	-2.051	-0.700	0.485		0.253	1.890	0.063	*	-1.774	-0.750	0.452	
$LEV_{it}$	0.019	0.050	0.962		-0.014	-0.600	0.549		0.009	0.030	0.979	
$TOE_{it}$	-0.078	-1.030	0.303		0.000	-0.130	0.894		-0.065	-1.060	0.289	
$TER_{it}$	0.037	0.260	0.799		-0.002	-0.600	0.550		0.019	0.180	0.857	
$CBID_{it}$	-0.426	-0.070	0.944		-0.244	-1.440	0.155		-0.176	-0.040	0.969	
$RELSZ_{it}$	0.028	0.080	0.935		-1.016	-19.500	0.000	***	0.001	0.000	0.997	
$MKTBK_{it}$	-0.051	-2.190	0.029	**	0.001	0.370	0.715		-0.049	-2.460	0.014	***
$DEFMES_{it}$	-0.085	-0.020	0.988		-0.370	-1.330	0.189		-0.407	-0.090	0.929	
$LIQ_{it}$	-0.030	-0.110	0.914		0.021	0.820	0.414		-0.034	-0.140	0.889	
Adjusted R <sup>2</sup>	0.373				0.998				0.389			
F-stat	14.150		0.000	***	2591.270		0.000	***	16.550		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

## Appendix 2.B

Table 2.B.1: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.904	0.017	17.317	-4.994	136.162	266
$IIA_{it}$	0.139	0.000	0.358	0.000	2.953	266
$OTHER_{it}$	2.113	0.146	9.598	-0.370	76.940	266
IIA_Dummy <sub>it</sub>	0.357	0.000	0.480	0.000	1.000	266
$TNI_{it}$	0.125	0.010	0.394	-0.229	3.005	266
$LEV_{it}$	0.797	0.033	2.621	0.000	18.453	266
$TOE_{it}$	13.767	0.000	21.487	0.000	82.800	266
$TER_{it}$	95.820	100.000	11.210	51.600	100.000	266
$CBID_{it}$	0.079	0.000	0.270	0.000	1.000	266
$RELSZ_{it}$	0.606	0.287	1.015	0.002	7.339	266
$MKTBK_{it}$	1.610	1.213	8.012	-53.203	43.160	266
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	266
$LIQ_{it}$	0.972	0.305	2.282	0.003	15.380	266

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.253	0.045	8.770	-4.994	75.940	77
$IIA_{it}$	0.170	0.000	0.531	0.000	2.953	77
$OTHER_{it}$	1.458	0.065	8.836	-0.370	76.940	77
IIA_Dummy <sub>it</sub>	0.273	0.000	0.448	0.000	1.000	77
$TNI_{it}$	0.135	0.007	0.436	-0.229	3.005	77
$LEV_{it}$	0.411	0.011	2.117	0.000	18.453	77
$TOE_{it}$	9.039	0.000	17.824	0.000	82.800	77
$TER_{it}$	93.474	100.000	13.751	51.600	100.000	77
$CBID_{it}$	0.104	0.000	0.307	0.000	1.000	77
$RELSZ_{it}$	0.498	0.295	0.884	0.002	7.339	77
$MKTBK_{it}$	2.313	1.996	13.303	-53.203	43.160	77
$DEFMES_{it}$	0.039	0.000	0.195	0.000	1.000	77
LIQ <sub>it</sub>	0.773	0.262	2.042	0.007	15.380	77

Table 2.B.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.540	0.020	15.809	-4.994	136.162	343
$IIA_{it}$	0.146	0.000	0.403	0.000	2.953	343
$OTHER_{it}$	1.966	0.133	9.423	-0.370	76.940	343
IIA_Dummy <sub>it</sub>	0.338	0.000	0.474	0.000	1.000	343
$IFRS_{it}$	0.224	0.000	0.418	0.000	1.000	343
$IIA_{it} * IFRS_{it}$	0.038	0.000	0.260	0.000	2.953	343
$TNI_{it}$	0.127	0.010	0.403	-0.229	3.005	343
$LEV_{it}$	0.710	0.026	2.519	0.000	18.453	343
$TOE_{it}$	12.705	0.000	20.791	0.000	82.800	343
$TER_{it}$	95.293	100.000	11.847	51.600	100.000	343
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	343
$RELSZ_{it}$	0.582	0.288	0.987	0.002	7.339	343
$MKTBK_{it}$	1.768	1.301	9.442	-53.203	43.160	343
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	343
$LIQ_{it}$	0.927	0.290	2.229	0.003	15.380	343

All variables as previously defined. All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

**Table 2.B.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.009
B. $IIA_{it}$	0.062	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	0.009	0.845	0.075	-0.044	-0.023	0.114	0.101	-0.029
B. IIA <sub>it</sub>	0.062	1.000	-0.061	0.509	0.032	0.607	0.002	-0.053	0.009
C. OTHER <sub>it</sub>	0.481	-0.251	1.000	0.008	-0.029	-0.030	0.260	0.187	-0.035
D. IIA_Dummy <sub>it</sub>	0.092	0.972	-0 .188	1.000	-0.074	0.206	-0.020	-0.062	0.045
E. IFRS <sub>it</sub>	0.068	-0.063	-0.095	-0.074	1.000	0.273	0.011	-0.064	-0.095
F. $IIA_{it} * IFRS_{it}$	0.038	0.367	-0 .140	0.357	0.474	1.000	-0.036	-0.027	-0.034
G. TNI <sub>it</sub>	0.036	-0.043	0.137	-0.032	-0.039	-0.028	1.000	0.187	-0.083
H. $LEV_{it}$	0.021	0.001	0.023	-0.008	-0.094	-0.016	0.300	1.000	0.018
I. $TOE_{it}$	0.008	0.021	-0.023	0.018	-0.100	-0.096	-0.031	-0.009	1.000

Panel C:	A	В	J	K	L	M	N	О
A. PREM <sub>it</sub>	1.000	0.009	-0.003	-0.042	0.149	-0.231	-0.030	0.001
B. IIA <sub>it</sub>	0.062	1.000	-0.021	-0.059	-0.009	-0.110	0.038	-0.051
J. $TER_{it}$	-0.012	0.000	1.000	-0.008	0.018	0.004	0.004	-0.143
K. CBID <sub>it</sub>	-0.090	-0.082	-0.019	1.000	-0.075	-0.011	0.134	-0.027
L. $RELSZ_{it}$	-0.087	-0.106	0.050	-0.109	1.000	0.050	-0.085	-0.078
M. $MKTBK_{it}$	-0.214	-0.002	0.132	0.034	0.024	1.000	0.017	-0.031
N. $DEFMES_{it}$	-0.036	0.067	-0.016	0.134	-0.098	0.034	1.000	-0.015
O. LIQ <sub>it</sub>	0.181	0.032	-0.103	-0.062	-0.144	-0.299	-0.009	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined. All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

**Table 2.B.3: Summary OLS regression results for the observations** 

	PREM	pre-IFRS (	n=266)		PREM	$I_{post-IFRS}$ (	n=77)		PREM	full period (1	n=343)	
	Coefficient	t-stat	p-value	2	Coefficient t-stat p-value C		Coefficient	Coefficient t-stat		lue		
Constant	5.280	1.190	0.236		0.514	1.470	0.148		1.674	0.450	0.654	
$IIA_{it}$	0.715	0.490	0.622		0.028	0.290	0.772		2.272	1.590	0.112	
$OTHER_{it}$	1.626	29.570	0.000 *	**	0.996	171.140	0.000	***	1.448	29.750	0.000	***
$IFRS_{it}$									-0.474	-0.430	0.671	
$IIA_{it} * IFRS_{it}$									-0.907	-0.400	0.693	
$TNI_{it}$	-8.560	-6.010	0.000 *	**	0.170	1.350	0.181		-5.487	-4.550	0.000	***
$LEV_{it}$	-0.306	-1.550	0.122		-0.013	-0.580	0.567		-0.201	-1.120	0.264	
$TOE_{it}$	-0.044	-1.890	0.060 *		-0.002	-0.660	0.511		-0.024	-1.120	0.266	
$TER_{it}$	-0.049	-1.110	0.269		-0.003	-0.950	0.348		-0.018	-0.480	0.632	
$CBID_{it}$	1.109	0.600	0.549		-0.259	-1.640	0.106		0.372	0.240	0.813	
$RELSZ_{it}$	2.253	4.380	0.000 *	**	-0.783	-12.430	0.000	***	1.675	3.520	0.001	***
$MKTBK_{it}$	-0.478	-7.330	0.000 *	**	0.002	0.620	0.535		-0.202	-4.180	0.000	***
$DEFMES_{it}$	0.545	0.320	0.747		-0.254	-0.980	0.333		0.054	0.030	0.973	
$LIQ_{it}$	0.015	0.070	0.946		0.027	1.160	0.251		0.022	0.110	0.912	
Adjusted R <sup>2</sup>	0.791				0.998				0.746			
F-stat	92.390		0.000 *	**	3196.860		0.000	***	78.360		0.000	***

Table 2.B.3 (cont.): Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=266)		PREM	$I_{post-IFRS}$ (1	n=77)		PREM	full period (1	n=343)	
	Coefficient	t-stat	p-val	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	4.708	1.060	0.292		0.503	1.460	0.149		1.246	0.330	0.739	
$IIA_{it}$	-0.563	-0.330	0.738		-0.058	-0.550	0.586		0.822	0.510	0.614	
$OTHER_{it}$	1.619	29.360	0.000	***	0.996	174.220	0.000	***	1.441	29.620	0.000	***
$IIA\_Dummy_{it}$	1.797	1.490	0.138		0.240	1.850	0.069	*	1.975	1.820	0.070	*
$IFRS_{it}$									-0.386	-0.350	0.729	
$IIA_{it} * IFRS_{it}$									-0.265	-0.110	0.909	
$TNI_{it}$	-8.578	-6.030	0.000	***	0.187	1.510	0.137		-5.477	-4.560	0.000	***
$LEV_{it}$	-0.284	-1.440	0.150		-0.009	-0.420	0.674		-0.178	-1.000	0.319	
$TOE_{it}$	-0.047	-1.990	0.005	***	-0.002	-0.600	0.551		-0.026	-1.200	0.230	
$TER_{it}$	-0.048	-1.090	0.278		-0.004	-1.070	0.290		-0.019	-0.500	0.617	
$CBID_{it}$	1.301	0.700	0.482		-0.239	-1.530	0.131		0.588	0.370	0.709	
$RELSZ_{it}$	2.343	4.530	0.000	***	-0.778	-12.570	0.000	***	1.763	3.700	0.000	***
$MKTBK_{it}$	-0.480	-7.370	0.000	***	0.001	0.250	0.805		-0.210	-4.330	0.000	***
$DEFMES_{it}$	0.441	0.260	0.794		-0.354	-1.350	0.180		-0.134	-0.080	0.933	
$LIQ_{it}$	0.005	0.020	0.983		0.019	0.790	0.431		-0.003	-0.020	0.986	
Adjusted R <sup>2</sup>	0.792				0.998				0.748			
F-stat	85.280		0.000	***	3039.870		0.000	***	73.510		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

## Appendix 2.C

**Table 2.C.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.411	0.017	1.430	-0.807	5.397	266
$IIA_{it}$	0.116	0.000	0.240	0.000	0.872	266
$OTHER_{it}$	0.610	0.146	1.098	-0.041	4.221	266
IIA_Dummy <sub>it</sub>	0.357	0.000	0.480	0.000	1.000	266
$TNI_{it}$	0.084	0.010	0.157	-0.055	0.576	266
$LEV_{it}$	0.385	0.033	0.726	0.000	2.661	266
$TOE_{it}$	13.026	0.000	19.460	0.000	60.700	266
$TER_{it}$	96.067	100.000	10.316	60.900	100.000	266
$CBID_{it}$	0.079	0.000	0.270	0.000	1.000	266
$RELSZ_{it}$	0.479	0.287	0.481	0.009	1.686	266
$MKTBK_{it}$	1.878	1.213	2.554	-2.227	11.195	266
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	266
$LIQ_{it}$	0.668	0.305	0.907	0.019	3.505	266

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.305	0.045	1.111	-0.807	5.397	77
$IIA_{it}$	0.103	0.000	0.241	0.000	0.872	77
$OTHER_{it}$	0.417	0.065	0.885	-0.041	4.221	77
IIA_Dummy <sub>it</sub>	0.273	0.000	0.448	0.000	1.000	77
$TNI_{it}$	0.079	0.007	0.165	-0.055	0.576	77
$LEV_{it}$	0.206	0.011	0.470	0.000	2.661	77
$TOE_{it}$	8.488	0.000	15.828	0.000	60.700	77
$TER_{it}$	93.844	100.000	12.702	60.900	100.000	77
$CBID_{it}$	0.104	0.000	0.307	0.000	1.000	77
$RELSZ_{it}$	0.422	0.295	0.413	0.009	1.686	77
$MKTBK_{it}$	3.336	1.996	4.210	-2.227	11.195	77
$DEFMES_{it}$	0.039	0.000	0.195	0.000	1.000	77
$LIQ_{it}$	0.547	0.262	0.847	0.019	3.505	77

Table 2.C.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.388	0.020	1.364	-0.807	5.397	343
$IIA_{it}$	0.113	0.000	0.240	0.000	0.872	343
$OTHER_{it}$	0.566	0.133	1.056	-0.041	4.221	343
IIA_Dummy <sub>it</sub>	0.338	0.000	0.474	0.000	1.000	343
$IFRS_{it}$	0.224	0.000	0.418	0.000	1.000	343
$IIA_{it} * IFRS_{it}$	0.023	0.000	0.121	0.000	0.872	343
$TNI_{it}$	0.083	0.010	0.159	-0.055	0.576	343
$LEV_{it}$	0.345	0.026	0.680	0.000	2.661	343
$TOE_{it}$	12.007	0.000	18.780	0.000	60.700	343
$TER_{it}$	95.568	100.000	10.917	60.900	100.000	343
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	343
$RELSZ_{it}$	0.466	0.288	0.467	0.009	1.686	343
$MKTBK_{it}$	2.206	1.301	3.060	-2.227	11.195	343
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	343
$LIQ_{it}$	0.641	0.290	0.894	0.019	3.505	343

All variables as previously defined. All variables are winsorised at the 5<sup>st</sup> and 95<sup>th</sup> percentiles.

**Table 2.C.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	-0.022
B. IIA <sub>it</sub>	0.063	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. $PREM_{it}$	1.000	-0.022	0.827	0.108	-0.032	-0.042	0.118	0.112	-0.037
B. IIA <sub>it</sub>	0.063	1.000	-0.144	.663	-0.024	0.434	-0.030	-0.037	0.002
C. OTHER <sub>it</sub>	0.482	-0.249	1.000	-0.033	-0.076	-0.085	0.238	0.156	-0.053
D. IIA_Dummy <sub>it</sub>	0.093	0.972	-0 .188	1.000	-0.074	0.267	-0.064	-0.077	0.047
E. IFRS <sub>it</sub>	0.069	-0.064	-0.096	-0.074	1.000	0.355	-0.011	-0.110	-0.101
F. $IIA_{it} * IFRS_{it}$	0.039	0.365	-0 .140	0.357	0.474	1.000	-0.043	-0.038	-0.030
G. TNI <sub>it</sub>	0.039	-0.042	0.139	-0.033	-0.040	-0.027	1.000	0.165	-0.061
H. $LEV_{it}$	0.020	0.002	0.024	-0.008	-0.095	-0.016	0.299	1.000	0.041
I. $TOE_{it}$	0.010	0.021	-0.023	0.019	-0.100	-0.096	-0.029	-0.008	1.000

Panel C:	A	В	J	K	L	M	N	O
A. PREM <sub>it</sub>	1.000	-0.022	-0.007	-0.048	0.088	-0.175	-0.005	0.169
B. IIA <sub>it</sub>	0.063	1.000	-0.041	-0.057	-0.058	-0.017	0.014	-0.014
J. $TER_{it}$	-0.012	0.002	1.000	-0.009	0.051	0.088	0.005	-0.136
K. CBID <sub>it</sub>	-0.090	-0.082	-0.018	1.000	-0.103	-0.031	0.134	-0.037
L. $RELSZ_{it}$	-0.085	-0.106	0.050	-0.108	1.000	0.047	-0.104	-0.117
M. $MKTBK_{it}$	-0.213	-0.002	0.132	0.033	0.023	1.000	0.002	-0.214
N. DEFMES <sub>it</sub>	-0.035	0.066	-0.015	0.134	-0.098	0.034	1.000	0.000
O. LIQ <sub>it</sub>	0.180	0.033	-0.103	-0.062	-0.141	-0.301	-0.009	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 5<sup>st</sup> and 95<sup>th</sup> percentiles.

Table 2.C.3: Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=266)		$PREM_{post-IFRS}$ (n=77)				PREM <sub>full period</sub> (n=343)			
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.162	-0.340	0.734		0.422	1.040	0.303		-0.107	-0.290	0.769	
$IIA_{it}$	0.669	3.310	0.001	***	0.254	1.290	0.202		0.672	3.670	0.000	***
$OTHER_{it}$	1.185	23.990	0.000	***	1.239	20.410	0.000	***	1.194	29.350	0.000	***
$IFRS_{it}$									0.169	1.640	0.101	
$IIA_{it} * IFRS_{it}$									-0.555	-1.430	0.153	
$TNI_{it}$	-0.279	-0.840	0.402		0.254	0.840	0.403		-0.161	-0.610	0.540	
$LEV_{it}$	-0.087	-1.240	0.218		-0.084	-0.840	0.404		-0.088	-1.470	0.142	
$TOE_{it}$	0.002	0.810	0.416		-0.005	-1.600	0.113		0.001	0.610	0.544	
$TER_{it}$	0.000	0.090	0.927		-0.003	-0.800	0.427		0.000	-0.020	0.985	
$CBID_{it}$	0.004	0.020	0.984		-0.175	-1.150	0.256		-0.048	-0.340	0.733	
$RELSZ_{it}$	-0.602	-5.390	0.000	***	-0.643	-4.550	0.000	***	-0.617	-6.570	0.000	***
$MKTBK_{it}$	-0.007	-0.380	0.706		-0.006	-0.500	0.619		-0.004	-0.270	0.784	
$DEFMES_{it}$	0.222	1.350	0.178		-0.296	-1.230	0.224		0.195	1.390	0.165	
$LIQ_{it}$	0.062	1.110	0.269		0.021	0.360	0.718		0.055	1.220	0.225	
Adjusted R <sup>2</sup>	0.709				0.880				0.734			
F-stat	59.780		0.000	***	51.580		0.000	***	73.650		0.000	***

Table 2.C.3 (cont.): Summary OLS regression results for the observations

	$PREM_{pre-IFRS}$ (n=266)				PREN	$I_{post-IFRS}$ (1	n=77)		PREM <sub>full period</sub> (n=343)				
	Coefficient	t-stat	p-value		Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	value	
Constant	-0.196	-0.410	0.679		0.407	1.000	0.321		-0.129	-0.350	0.723		
$IIA_{it}$	0.363	1.340	0.181		0.076	0.280	0.778		0.399	1.690	0.091	*	
$OTHER_{it}$	1.170	23.390	0.000	***	1.236	20.320	0.000	***	1.182	28.780	0.000	***	
$IIA\_Dummy_{it}$	0.229	1.680	0.094	*	0.146	0.980	0.330		0.205	1.840	0.067	*	
$IFRS_{it}$									0.182	1.760	0.079	*	
$IIA_{it} * IFRS_{it}$									-0.538	-1.390	0.164		
$TNI_{it}$	-0.278	-0.840	0.402		0.274	0.910	0.369		-0.158	-0.600	0.546		
$LEV_{it}$	-0.071	-1.000	0.318		-0.080	-0.800	0.426		-0.076	-1.260	0.209		
$TOE_{it}$	0.002	0.600	0.547		-0.005	-1.490	0.140		0.001	0.460	0.644		
$TER_{it}$	0.000	0.050	0.957		-0.003	-0.790	0.433		0.000	-0.080	0.937		
$CBID_{it}$	0.029	0.160	0.874		-0.170	-1.110	0.272		-0.028	-0.200	0.838		
$RELSZ_{it}$	-0.561	-4.920	0.000	***	-0.644	-4.560	0.000	***	-0.585	-6.150	0.000	***	
$MKTBK_{it}$	-0.009	-0.470	0.642		-0.008	-0.640	0.521		-0.006	-0.420	0.678		
$DEFMES_{it}$	0.212	1.290	0.198		-0.356	-1.430	0.157		0.177	1.260	0.208		
$LIQ_{it}$	0.058	1.030	0.304		0.011	0.190	0.849		0.049	1.080	0.280		
2													
Adjusted R <sup>2</sup>	0.711				0.880				0.736				
F-stat	55.430		0.000	***	51.580		0.000	***	69.120		0.000	***	

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.D

**Table 2.D.1: Sample selection** 

Sample Process	
	Number
Full SDC database as at December 2009	28,230
Removal of firms with incomplete status	8,499
Removal of firms with non-Australian GAAP	7,349
Removal of firms with more than 50% pre-takeover and less than 50%	
post-takeover ownership in the target	3,164
Removal of firms with missing competitor's data	4,581
Removal of firms with missing defensive tactics data	3,928
Removal of firms with missing director's recommendations and expert's	
conclusion	203
Removal of firms with missing annual reports in the transaction year	19
Removal of firms with missing CRIF data	87
Total firms remaining	400
Removal of firms with overlapping windows for the LHS variable	57
Removal of firms whose the regression observations have a residual	
2 standard deviations or more than zero	1
Final Sample	342

Table 2.D.2: Distribution of sample by calendar year and acquirer's industry

Panel A: Distribu	tion of sample by caler	dar year	
Year/Model	Pre-IFRS	Post-IFRS	Full sample
1988	1		1
1989	5		6
1990	7		7
1991	7		7
1992	6		6
1993	12		12
1994	9		9
1995	15		15
1996	23		22
1997	16		16
1998	15		15
1999	27		27
2000	28		28
2001	25		25
2002	16		16
2003	18		18
2004	15		15
2005	20	1	21
2006		26	29
2007		29	31
2008		15	16
Total	265	71	342

Table 2.D.2 (cont.): Distribution of sample by calendar year and acquirer's industry

Panel B: Distribution of sample by acquirer	•	D IEDC	E 11 1.
Industry/Model	Pre-IFRS	Post-IFRS	Full sample
Energy	16	4	20
Chemicals	3	0	4
Construction Materials	5	2	8
Paper & Forest Products	1	0	1
Metals & Mining	73	19	93
Capital Goods	0	0	0
Commercial Services & Supplies	21	7	28
Transportation	7	2	9
Automobiles & Components	0	0	0
Consumer Durables & Apparel	4	0	4
Consumer Services	1	1	2
Media	2	1	3
Retailing	15	3	18
Food & Drug Retailing	22	5	27
Food Beverage & Tobacco	1	0	1
Healthcare Equipment & Services	8	0	9
Pharmaceuticals & Biotechnology	0	0	0
Banks	8	5	13
Diversified Financials	38	11	49
Insurance	2	1	3
Real Estate excluding Investment Trusts	12	1	13
Real Estate Investment Trusts	0	0	0
Software & Services	4	1	5
Technology Hardware & Equipment	7	0	7
Telecommunications Services	9	5	16
Utilities	0	0	0
not specified	6	3	9
Total	265	71	342

**Table 2.D.3: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
7. $PREM_{it}$	2.664	0.016	20.587	-58.728	248.802	265
$IIA_{it}$	0.141	0.000	0.400	0.000	4.253	265
$OTHER_{it}$	3.230	0.148	19.992	-1.209	249.601	265
IIA_Dummy <sub>it</sub>	0.355	0.000	0.479	0.000	1.000	265
$TNI_{it}$	0.187	0.010	1.155	-1.037	17.403	265
$LEV_{it}$	0.981	0.034	4.063	0.000	40.987	265
$TOE_{it}$	13.880	0.000	21.721	0.000	94.500	265
$TER_{it}$	95.796	100.000	11.258	50.100	100.000	265
$CBID_{it}$	0.079	0.000	0.271	0.000	1.000	265
$RELSZ_{it}$	1.311	0.287	9.702	0.001	146.678	265
$MKTBK_{it}$	4.601	1.215	72.316	-580.459	929.191	265
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	265
LIQ <sub>it</sub>	1.280	0.311	5.743	0.001	85.510	265

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.142	0.040	9.165	-9.019	75.940	71
$IIA_{it}$	0.221	0.000	0.782	0.000	5.555	71
$OTHER_{it}$	1.471	0.064	9.191	-0.131	76.940	71
IIA_Dummy <sub>it</sub>	0.282	0.000	0.453	0.000	1.000	71
$TNI_{it}$	0.130	0.004	0.431	-0.229	3.005	71
$LEV_{it}$	0.430	0.005	2.204	0.000	18.453	71
$TOE_{it}$	9.369	0.000	18.410	0.000	82.800	71
$TER_{it}$	93.496	100.000	13.667	51.300	100.000	71
$CBID_{it}$	0.113	0.000	0.318	0.000	1.000	71
$RELSZ_{it}$	0.499	0.260	1.158	0.000	9.642	71
$MKTBK_{it}$	2.019	1.996	15.296	-76.745	43.160	71
$DEFMES_{it}$	0.042	0.000	0.203	0.000	1.000	71
$LIQ_{it}$	0.774	0.262	2.106	0.007	15.380	71

Table 2.D.3 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.335	0.020	18.597	-58.728	248.802	342
$IIA_{it}$	0.155	0.000	0.501	0.000	5.555	342
$OTHER_{it}$	2.831	0.134	18.094	-1.209	249.601	342
IIA_Dummy <sub>it</sub>	0.336	0.000	0.473	0.000	1.000	342
$IFRS_{it}$	0.225	0.000	0.418	0.000	1.000	342
$IIA_{it} * IFRS_{it}$	0.046	0.000	0.366	0.000	5.555	342
$TNI_{it}$	0.175	0.010	1.037	-1.037	17.403	342
$LEV_{it}$	0.853	0.028	3.720	0.000	40.987	342
$TOE_{it}$	12.790	0.000	20.980	0.000	94.500	342
$TER_{it}$	95.273	100.000	11.886	50.100	100.000	342
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	342
$RELSZ_{it}$	1.135	0.288	8.559	0.000	146.678	342
$MKTBK_{it}$	4.017	1.303	64.020	-580.459	929.191	342
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	342
LIQ <sub>it</sub>	1.166	0.294	5.149	0.001	85.510	342

All variables as previously defined. All variables are based on observations without regression residual more than two standard deviations from zero.

**Table 2.D.4: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	-0.036
B. $IIA_{it}$	0.053	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	-0.036	0.982	0.069	-0.033	-0.016	0.023	0.083	-0.027
B. IIA <sub>it</sub>	0.053	1.000	-0.042	0.436	0.054	0.702	0.065	-0.040	0.019
C. OTHER <sub>it</sub>	0.492	-0.244	1.000	0.051	-0.041	-0.020	0.083	0.083	-0.028
D. IIA_Dummy <sub>it</sub>	0.086	0.973	-0 .183	1.000	-0.072	0.178	0.060	-0.031	0.045
E. IFRS <sub>it</sub>	0.071	-0.061	-0.098	-0.072	1.000	0.235	-0.021	-0.064	-0.097
F. $IIA_{it} * IFRS_{it}$	0.039	0.370	-0 .141	0.359	0.474	1.000	-0.018	-0.018	-0.029
G. TNI <sub>it</sub>	0.044	-0.034	0.131	-0.025	-0.042	-0.029	1.000	0.088	-0.063
H. LEV <sub>it</sub>	0.027	0.008	0.018	-0.003	-0.097	-0.016	0.297	1.000	0.033
I. $TOE_{it}$	0.012	0.026	-0.027	0.022	-0.101	-0.097	-0.036	-0.012	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	-0.036	-0.007	-0.032	-0.082	-0.083	-0.022	0.018
B. IIA <sub>it</sub>	0.053	1.000	-0.031	-0.053	0.060	-0.026	0.027	-0.032
J. $TER_{it}$	-0.014	-0.003	1.000	-0.008	0.028	0.015	0.003	-0.063
K. CBID <sub>it</sub>	-0.089	-0.081	-0.018	1.000	-0.028	-0.012	0.133	-0.026
L. <i>RELSZ<sub>it</sub></i>	-0.096	-0.116	0.048	-0.108	1.000	0.142	-0.030	-0.009
M. $MKTBK_{it}$	-0.208	0.007	0.134	0.032	0.033	1.000	-0.008	-0.011
N. $DEFMES_{it}$	-0.035	0.069	-0.016	0.133	-0.097	0.033	1.000	-0.021
O. LIQ <sub>it</sub>	0.191	0.042	-0.101	-0.064	-0.137	-0.311	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are based on observations without regression residual more than two standard deviations from zero.

Table 2.D.5: Summary OLS regression results for the observations

	PREM	$I_{pre-IFRS}$ (	(n=265)		PREN	$I_{post-IFRS}$ (	n=71)		PREM	full period (r	n=342)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.043	-1.540	0.125		0.086	0.400	0.689		-1.159	-1.120	0.266	
$IIA_{it}$	0.498	1.310	0.191		0.017	0.450	0.651		0.532	1.510	0.132	
$OTHER_{it}$	1.007	133.030	0.000	***	1.000	303.600	0.000	***	1.007	147.290	0.000	***
$IFRS_{it}$									0.079	0.250	0.800	
$IIA_{it} * IFRS_{it}$									-0.380	-0.770	0.443	
$TNI_{it}$	2.975	10.900	0.000	***	0.267	3.440	0.001	***	2.548	10.810	0.000	***
$LEV_{it}$	-0.064	-1.690	0.092	*	-0.012	-0.950	0.347		-0.048	-1.440	0.152	
$TOE_{it}$	0.001	0.200	0.845		0.001	0.860	0.396		0.000	0.050	0.959	
$TER_{it}$	0.016	1.200	0.231		0.001	0.280	0.782		0.007	0.700	0.483	
$CBID_{it}$	0.538	0.950	0.341		-0.135	-1.470	0.148		0.388	0.870	0.384	
$RELSZ_{it}$	-0.553	-17.030	0.000	***	-1.052	-36.410	0.000	***	-0.512	-17.910	0.000	***
$MKTBK_{it}$	-0.009	-4.050	0.000	***	0.004	1.860	0.068	*	-0.010	-4.740	0.000	***
$DEFMES_{it}$	0.465	0.900	0.370		-0.128	-0.880	0.383		0.452	1.000	0.316	
$LIQ_{it}$	-0.007	-0.260	0.797		0.025	1.840	0.070	*	-0.004	-0.170	0.866	
Adjusted R <sup>2</sup>	0.986				0.999				0.985			
F-stat	1700.010		0.000	***	9663.730		0.000	***	1751.440		0.000	***

Table 2.D.5 (cont.): Summary OLS regression results for the observations

	PREM	$I_{pre-IFRS}$ (	n=265)		PREM	$I_{post-IFRS}$ (1	n=71)		PREM	full period (1	n=342)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.279	-1.720	0.087	*	0.154	0.790	0.430		-1.342	-1.290	0.197	
$IIA_{it}$	0.138	0.320	0.748		-0.038	-1.020	0.311		0.166	0.430	0.670	
$OTHER_{it}$	1.006	132.790	0.000	***	1.002	335.130	0.000	***	1.006	147.490	0.000	***
IIA_Dummy <sub>it</sub>	0.640	1.790	0.075	*	0.262	3.730	0.000	***	0.645	2.180	0.030	**
$IFRS_{it}$									0.107	0.350	0.730	
$IIA_{it} * IFRS_{it}$									-0.180	-0.360	0.720	
$TNI_{it}$	2.962	10.890	0.000	***	0.290	4.120	0.000	***	2.540	10.840	0.000	***
$LEV_{it}$	-0.062	-1.650	0.100	***	-0.008	-0.660	0.509		-0.046	-1.390	0.166	
$TOE_{it}$	0.001	0.120	0.902		0.001	0.940	0.350		0.000	0.020	0.984	
$TER_{it}$	0.017	1.260	0.210		-0.001	-0.350	0.725		0.008	0.720	0.474	
$CBID_{it}$	0.604	1.070	0.285		-0.114	-1.360	0.178		0.461	1.040	0.300	**
$RELSZ_{it}$	-0.552	-17.070	0.000	***	-1.050	-40.110	0.000	***	-0.511	-17.990	0.000	***
$MKTBK_{it}$	-0.009	-3.930	0.000	***	0.002	1.120	0.268		-0.009	-4.630	0.000	***
$DEFMES_{it}$	0.418	0.810	0.419		-0.276	-2.010	0.049	**	0.369	0.820	0.411	
$LIQ_{it}$	-0.006	-0.210	0.832		0.018	1.440	0.154		-0.004	-0.160	0.875	
Adjusted R <sup>2</sup>	0.986				1.000				0.985			
F-stat	1572.120		0.000	***	10796.100		0.000	***	1645.320		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

All variables are based on observations without regression residual more than two standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.E

**Table 2.E.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.495	0.017	15.440	-4.994	136.162	259
$IIA_{it}$	0.122	0.000	0.307	0.000	2.953	259
$OTHER_{it}$	2.110	0.152	9.691	-0.370	76.940	259
$IIA\_Dummy_{it}$	0.347	0.000	0.477	0.000	1.000	259
$TNI_{it}$	0.103	0.010	0.306	-0.229	3.005	259
$LEV_{it}$	0.809	0.040	2.653	0.000	18.453	259
$TOE_{it}$	13.641	0.000	21.192	0.000	82.800	259
$TER_{it}$	96.009	100.000	10.887	51.600	100.000	259
$CBID_{it}$	0.077	0.000	0.267	0.000	1.000	259
$RELSZ_{it}$	0.540	0.283	0.785	0.002	7.339	259
$MKTBK_{it}$	2.095	1.217	4.904	-17.641	43.160	259
$DEFMES_{it}$	0.100	0.000	0.301	0.000	1.000	259
$LIQ_{it}$	0.964	0.314	2.275	0.003	15.380	259

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.198	0.040	9.114	-4.994	75.940	71
$IIA_{it}$	0.183	0.000	0.551	0.000	2.953	71
$OTHER_{it}$	1.471	0.064	9.191	-0.131	76.940	71
IIA_Dummy <sub>it</sub>	0.282	0.000	0.453	0.000	1.000	71
$TNI_{it}$	0.130	0.004	0.431	-0.229	3.005	71
$LEV_{it}$	0.430	0.005	2.204	0.000	18.453	71
$TOE_{it}$	9.369	0.000	18.410	0.000	82.800	71
$TER_{it}$	93.500	100.000	13.654	51.600	100.000	71
$CBID_{it}$	0.113	0.000	0.318	0.000	1.000	71
$RELSZ_{it}$	0.467	0.260	0.902	0.002	7.339	71
$MKTBK_{it}$	2.350	1.996	13.741	-53.203	43.160	71
$DEFMES_{it}$	0.042	0.000	0.203	0.000	1.000	71
LIQ <sub>it</sub>	0.774	0.262	2.106	0.007	15.380	71

Table 2.E.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.754	0.019	4.741	-4.994	65.157	336
$IIA_{it}$	0.144	0.000	0.402	0.000	2.953	336
$OTHER_{it}$	1.046	0.130	4.712	-0.370	65.944	336
IIA_Dummy <sub>it</sub>	0.333	0.000	0.472	0.000	1.000	336
$IFRS_{it}$	0.223	0.000	0.417	0.000	1.000	336
$IIA_{it} * IFRS_{it}$	0.039	0.000	0.263	0.000	2.953	336
$TNI_{it}$	0.110	0.009	0.339	-0.229	3.005	336
$LEV_{it}$	0.714	0.025	2.542	0.000	18.453	336
$TOE_{it}$	12.837	0.000	20.866	0.000	82.800	336
$TER_{it}$	95.282	100.000	11.907	51.600	100.000	336
$CBID_{it}$	0.086	0.000	0.281	0.000	1.000	336
$RELSZ_{it}$	0.538	0.281	0.882	0.002	7.339	336
$MKTBK_{it}$	2.050	1.329	8.745	-53.203	43.160	336
$DEFMES_{it}$	0.086	0.000	0.281	0.000	1.000	336
$LIQ_{it}$	0.937	0.294	2.250	0.003	15.380	336

All variables as previously defined. All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

**Table 2.E.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	-0.041
B. $IIA_{it}$	0.062	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	-0.041	0.978	-0.004	-0.054	-0.022	0.490	0.396	-0.047
B. IIA <sub>it</sub>	0.062	1.000	-0.074	0.506	0.042	0.615	-0.031	-0.056	0.015
C. OTHER <sub>it</sub>	0.489	-0.261	1.000	-0.061	-0.066	-0.032	0.533	0.397	-0.052
D. IIA_Dummy <sub>it</sub>	0.088	0.973	-0 .202	1.000	-0.061	0.210	-0.034	-0.066	0.056
E. IFRS <sub>it</sub>	0.072	-0.050	-0.104	-0.061	1.000	0.277	-0.018	-0.062	-0.092
F. $IIA_{it} * IFRS_{it}$	0.044	0.374	-0 .137	0.365	0.481	1.000	-0.035	-0.028	-0.035
G. TNI <sub>it</sub>	0.051	-0.040	0.117	-0.029	-0.043	-0.026	1.000	0.221	-0.080
H. $LEV_{it}$	0.041	-0.009	0.015	-0.021	-0.090	-0.016	0.296	1.000	0.019
I. $TOE_{it}$	0.006	0.037	-0.023	0.034	-0.102	-0.099	-0.033	0.003	1.000

Panel C:	A	В	J	K	L	M	N	О
A. $PREM_{it}$	1.000	-0.041	0.032	-0.025	-0.067	-0.045	0.015	0.076
B. IIA <sub>it</sub>	0.062	1.000	-0.027	-0.575	-0.083	-0.085	0.040	-0.050
J. $TER_{it}$	0.003	-0.015	1.000	-0.008	0.014	0.011	0.004	-0.145
K. CBID <sub>it</sub>	-0.087	-0.080	-0.020	1.000	-0.069	-0.022	0.132	-0.029
L. $RELSZ_{it}$	-0.110	-0.122	0.060	-0.102	1.000	0.171	-0.081	-0.076
M. $MKTBK_{it}$	-0.190	0.015	0.123	0.029	0.047	1.000	0.008	-0.047
N. $DEFMES_{it}$	-0.031	0.071	-0.018	0.132	-0.092	0.029	1.000	-0.016
O. LIQ <sub>it</sub>	0.202	0.027	-0.116	-0.066	-0.133	-0.314	-0.012	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

**Table 2.E.3: Summary OLS regression results for the observations** 

	PREM	$I_{pre-IFRS}$ (	n=258)		PREN	$M_{post-IFRS}$ (1	n=71)		PREM	full period (1	n=335)	
	Coefficient	t-stat	p-va	lue	Coefficient t-stat p-value (		Coefficient	Coefficient t-stat		lue		
Constant	1.986	1.260	0.208		0.135	0.660	0.511		0.020	0.060	0.956	
$IIA_{it}$	0.640	1.160	0.247		0.057	1.070	0.287		0.523	3.390	0.001	***
$OTHER_{it}$	1.684	86.750	0.000	***	0.998	309.320	0.000	***	1.000	90.290	0.000	***
$IFRS_{it}$									0.151	1.410	0.160	
$IIA_{it} * IFRS_{it}$									-0.519	-2.290	0.023	**
$TNI_{it}$	-7.165	-11.310	0.000	***	0.218	2.910	0.005	***	-0.047	-0.310	0.758	
$LEV_{it}$	-0.347	-5.110	0.000	***	-0.008	-0.620	0.537		-0.003	-0.170	0.864	
$TOE_{it}$	0.006	0.740	0.462		0.000	0.140	0.890		0.002	0.970	0.334	
$TER_{it}$	-0.019	-1.190	0.234		-0.001	-0.290	0.769		-0.001	-0.200	0.844	
$CBID_{it}$	0.184	0.290	0.775		-0.136	-1.550	0.128		0.182	1.220	0.222	
$RELSZ_{it}$	-0.537	-2.170	0.031	**	-0.834	-23.080	0.000	***	-0.713	-14.160	0.000	***
$MKTBK_{it}$	-0.011	-0.280	0.779		0.004	1.680	0.099	*	0.001	0.240	0.809	
$DEFMES_{it}$	0.331	0.560	0.573		-0.154	-1.070	0.291		0.150	0.990	0.321	
$LIQ_{it}$	-0.047	-0.630	0.531		0.023	1.740	0.088	*	0.005	0.250	0.800	
Adjusted R <sup>2</sup>	0.970				0.999				0.975			
F-stat	753.370		0.000	***	10450.000		0.000	***	996.800		0.000	***

Table 2.E.3 (cont.): Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=259)		PREN	$M_{post-IFRS}$ (1	n=71)		$PREM_{f}$	ull period (r	n=336)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	1.893	1.130	0.260		0.182	0.960	0.339		-0.031	-0.090	0.929	
$IIA_{it}$	0.156	0.220	0.823		-0.027	-0.490	0.629		0.160	1.040	0.297	
$OTHER_{it}$	1.663	81.010	0.000	***	0.998	336.930	0.000	***	1.000	91.820	0.000	***
$IIA\_Dummy_{it}$	0.638	1.410	0.160		0.243	3.470	0.001	***	0.367	3.570	0.000	***
$IFRS_{it}$									0.154	1.460	0.144	
$IIA_{it} * IFRS_{it}$									-0.312	-1.440	0.150	
$TNI_{it}$	-6.865	-10.210	0.000	***	0.240	3.470	0.001	***	-0.048	-0.330	0.745	
$LEV_{it}$	-0.328	-4.540	0.000	***	-0.004	-0.350	0.731		0.000	0.030	0.979	
$TOE_{it}$	0.008	0.950	0.344		0.000	0.190	0.853		0.001	0.690	0.491	
$TER_{it}$	-0.020	-1.210	0.227		-0.002	-0.830	0.412		-0.001	-0.300	0.766	
$CBID_{it}$	0.458	0.670	0.504		-0.118	-1.460	0.150		0.224	1.520	0.128	
$RELSZ_{it}$	-0.485	-1.830	0.069	*	-0.834	-25.120	0.000	***	-0.697	-14.010	0.000	***
$MKTBK_{it}$	-0.009	-0.220	0.825		0.002	1.050	0.299		0.002	0.370	0.714	
$DEFMES_{it}$	-0.396	-0.650	0.518		-0.260	-1.910	0.061	*	0.117	0.780	0.434	
$LIQ_{it}$	-0.047	-0.590	0.556		0.016	1.290	0.204		0.000	0.020	0.985	
Adjusted R <sup>2</sup>	0.966				1.000				0.976			
F-stat	613.160		0.000	***	11369.400		0.000	***	957.300		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.F

**Table 2.F.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.305	0.013	1.238	-0.807	5.397	256
$IIA_{it}$	0.107	0.000	0.227	0.000	0.872	256
$OTHER_{it}$	0.549	0.142	1.022	-0.041	4.221	256
IIA_Dummy <sub>it</sub>	0.348	0.000	0.477	0.000	1.000	256
$TNI_{it}$	0.078	0.010	0.147	-0.055	0.576	256
$LEV_{it}$	0.389	0.040	0.731	0.000	2.661	256
$TOE_{it}$	13.046	0.000	19.388	0.000	60.700	256
$TER_{it}$	96.009	100.000	10.411	60.900	100.000	256
$CBID_{it}$	0.074	0.000	0.263	0.000	1.000	256
$RELSZ_{it}$	0.447	0.264	0.452	0.009	1.686	256
$MKTBK_{it}$	1.925	1.220	2.582	-2.227	11.195	256
$DEFMES_{it}$	0.098	0.000	0.297	0.000	1.000	256
LIQ <sub>it</sub>	0.665	0.299	0.901	0.019	3.505	256

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.229	0.040	0.960	-0.807	5.397	72
$IIA_{it}$	0.110	0.000	0.247	0.000	0.872	72
$OTHER_{it}$	0.364	0.062	0.790	-0.041	4.221	72
IIA_Dummy <sub>it</sub>	0.292	0.000	0.458	0.000	1.000	72
$TNI_{it}$	0.084	0.007	0.169	-0.055	0.576	72
$LEV_{it}$	0.207	0.008	0.481	0.000	2.661	72
$TOE_{it}$	8.885	0.000	16.235	0.000	60.700	72
$TER_{it}$	93.499	100.000	13.061	60.900	100.000	72
$CBID_{it}$	0.111	0.000	0.316	0.000	1.000	72
$RELSZ_{it}$	0.381	0.254	0.382	0.009	1.686	72
$MKTBK_{it}$	3.380	2.014	4.125	-2.227	11.195	72
$DEFMES_{it}$	0.042	0.000	0.201	0.000	1.000	72
LIQ <sub>it</sub>	0.563	0.259	0.871	0.019	3.505	72

Table 2.F.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.305	0.019	1.208	-0.807	5.397	333
$IIA_{it}$	0.106	0.000	0.230	0.000	0.872	333
$OTHER_{it}$	0.518	0.131	0.992	-0.041	4.221	333
IIA_Dummy <sub>it</sub>	0.330	0.000	0.471	0.000	1.000	333
$IFRS_{it}$	0.231	0.000	0.422	0.000	1.000	333
$IIA_{it} * IFRS_{it}$	0.024	0.000	0.123	0.000	0.872	333
$TNI_{it}$	0.079	0.010	0.151	-0.055	0.576	333
$LEV_{it}$	0.347	0.031	0.683	0.000	2.661	333
$TOE_{it}$	11.992	0.000	18.702	0.000	60.700	333
$TER_{it}$	95.508	100.000	11.001	60.900	100.000	333
$CBID_{it}$	0.081	0.000	0.273	0.000	1.000	333
$RELSZ_{it}$	0.441	0.270	0.442	0.009	1.686	333
$MKTBK_{it}$	2.251	1.330	3.088	-2.227	11.195	333
$DEFMES_{it}$	0.084	0.000	0.278	0.000	1.000	333
$LIQ_{it}$	0.637	0.287	0.889	0.019	3.505	333

All variables as previously defined. All variables are winsorised at the  $5^{th}$  and  $95^{th}$  percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

**Table 2.F.2: Correlation matrix** 

Panel A:	A	В
A. $PREM_{it}$	1.000	-0.093
B. $IIA_{it}$	0.038	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	-0.093	0.917	0.072	0.000	-0.035	0.101	0.168	-0.067
B. IIA <sub>it</sub>	0.038	1.000	-0.195	0 .657	-0.007	0.466	-0.031	-0.051	0.032
C. OTHER <sub>it</sub>	0.529	-0.254	1.000	-0.039	-0.056	-0.082	0.153	0.158	-0.054
D. IIA_Dummy <sub>it</sub>	0.071	0.974	-0 .187	1.000	-0.067	0.276	-0.053	-0.084	0.053
E. IFRS <sub>it</sub>	0.083	-0.055	-0.089	-0.067	1.000	0.353	0.004	-0.113	-0.103
F. $IIA_{it} * IFRS_{it}$	0.046	0.381	-0 .141	0.369	0.473	1.000	-0.040	-0.040	-0.030
G. TNI <sub>it</sub>	0.052	-0.022	0.122	-0.017	-0.040	-0.028	1.000	0.161	-0.082
H. $LEV_{it}$	0.048	-0.003	0.013	-0.014	-0.102	-0.018	0.301	1.000	0.048
I. $TOE_{it}$	0.012	0.042	-0.015	0.032	-0.104	-0.098	-0.056	-0.011	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	-0.093	-0.008	-0.709	-0.003	-0.154	-0.030	0.170
B. IIA <sub>it</sub>	0.038	1.000	-0.060	-0.060	-0.117	0.002	0.029	-0.011
J. $TER_{it}$	-0.010	-0.014	1.000	-0.016	0.051	0.091	0.003	-0.145
K. CBID <sub>it</sub>	-0.092	-0.090	-0.027	1.000	-0.134	-0.031	0.148	-0.027
L. $RELSZ_{it}$	-0.110	-0.135	0.046	-0.132	1.000	0.085	-0.101	-0.141
M. $MKTBK_{it}$	-0.200	0.011	0.134	0.026	0.051	1.000	0.003	-0.216
N. $DEFMES_{it}$	-0.049	0.066	-0.018	0.148	-0.099	0.038	1.000	0.004
O. LIQ <sub>it</sub>	0.189	0.035	-0.109	-0.055	-0.148	-0.310	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

**Table 2.F.3: Summary OLS regression results for the observations** 

	PREM	$I_{pre-IFRS}$ (	n=258)		PREM	$I_{post-IFRS}$ (1	n=73)		$PREM_{j}$	full period (1	1=333)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.183	-0.810	0.418		0.403	1.270	0.210		-0.051	-0.280	0.779	
$IIA_{it}$	0.567	5.580	0.000	***	0.328	2.140	0.037	**	0.459	4.620	0.000	***
$OTHER_{it}$	1.230	50.360	0.000	***	1.267	26.000	0.000	***	1.225	57.630	0.000	***
$IFRS_{it}$									0.166	3.220	0.001	***
$IIA_{it} * IFRS_{it}$									-0.338	-1.730	0.085	*
$TNI_{it}$	0.281	1.720	0.088	*	0.264	1.040	0.303		0.224	1.640	0.103	
$LEV_{it}$	-0.013	-0.390	0.697		-0.039	-0.490	0.623		-0.010	-0.320	0.753	
$TOE_{it}$	0.000	0.310	0.754		-0.005	-2.010	0.049	**	0.000	0.070	0.946	
$TER_{it}$	0.000	-0.130	0.899		-0.004	-1.110	0.269		-0.001	-0.560	0.578	
$CBID_{it}$	0.047	0.520	0.604		-0.131	-1.100	0.274		-0.030	-0.420	0.676	
$RELSZ_{it}$	-0.729	-13.120	0.000	***	-0.655	-4.930	0.000	***	-0.746	-15.290	0.000	***
$MKTBK_{it}$	0.022	2.360	0.019	**	-0.007	-0.780	0.441		0.012	1.780	0.075	*
$DEFMES_{it}$	0.014	0.180	0.860		-0.293	-1.570	0.122		0.015	0.210	0.834	
$LIQ_{it}$	0.073	2.730	0.007	***	0.013	0.300	0.762		0.043	1.860	0.064	*
Adjusted R <sup>2</sup>	0.919				0.931				0.917			
F-stat	266.450		0.000	***	88.620		0.000	***	281.150		0.000	***

Table 2.F.3 (cont.): Summary OLS regression results for the observations

	PREM	!pre-IFRS (	n=256)		PREM	$I_{post-IFRS}$ (1	n=72)		$PREM_{j}$	full period (1	n=333)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.102	-0.490	0.628		0.450	1.520	0.135		-0.061	-0.340	0.737	
$IIA_{it}$	0.328	2.580	0.011	**	0.038	0.190	0.847		0.325	2.580	0.010	***
$OTHER_{it}$	1.210	51.920	0.000	***	1.199	23.700	0.000	***	1.292	56.660	0.000	***
IIA_Dummy <sub>it</sub>	0.096	1.580	0.115		0.226	2.100	0.040	**	0.097	1.730	0.084	*
$IFRS_{it}$									0.171	3.340	0.001	***
$IIA_{it} * IFRS_{it}$									-0.327	-1.670	0.095	*
$TNI_{it}$	0.224	1.450	0.148		0.402	1.680	0.098	*	0.222	1.630	0.105	
$LEV_{it}$	0.008	0.270	0.791		-0.041	-0.560	0.578		-0.004	-0.120	0.908	
$TOE_{it}$	0.000	0.440	0.661		-0.004	-1.600	0.116		0.000	-0.050	0.963	
$TER_{it}$	-0.001	-0.490	0.625		-0.004	-1.450	0.152		-0.001	-0.610	0.542	
$CBID_{it}$	0.042	0.490	0.622		-0.144	-1.300	0.198		-0.021	-0.290	0.774	
$RELSZ_{it}$	-0.743	-14.080	0.000	***	-0.684	-5.530	0.000	***	-0.732	-14.850	0.000	***
$MKTBK_{it}$	0.021	2.380	0.018	**	-0.007	-0.810	0.421		0.011	1.650	0.101	
$DEFMES_{it}$	0.016	0.210	0.831		-0.361	-2.030	0.047	**	0.008	0.120	0.907	
$LIQ_{it}$	0.051	2.020	0.045	**	0.015	0.350	0.730		0.039	1.710	0.088	*
Adjusted R <sup>2</sup>	0.926				0.917				0.917			
F-stat	267.720		0.000	***	66.720		0.000	***	262.920		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IFRS_{it} + \beta_{4}IIA_{it}.IFRS_{it} + \sum_{j=5}^{13}\beta_{j}Control_{jit} + \varepsilon_{it} ......(2)$$

$$Perf_{it} = \alpha_{0} + \alpha_{1}IIA_{it} + \alpha_{2}OTHER_{it} + \alpha_{3}IIA\_Dummy_{it} + \sum_{i=4}^{12}\alpha_{i}Control_{iit} + \varepsilon_{it} ......(3)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IIA_{Dummy_{it}} + \beta_{4}IFRS_{it} + \beta_{5}IIA_{it}.IFRS_{it} + \sum_{j=6}^{14}\beta_{j}Control_{jit} + \varepsilon_{it} .........(4)$$

All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.G

**Table 2.G.1: Sample selection** 

Sample Process	
	Number
Full SDC database as at December 2009	28,230
Removal of firms with incomplete status	8,499
Removal of firms with non-Australian GAAP	7,349
Removal of firms with more than 50% pre-takeover and less than 50%	
post-takeover ownership in the target	3,164
Removal of firms with missing competitor's data	4,581
Removal of firms with missing defensive tactics data	3,928
Removal of firms with missing director's recommendations and expert's	
conclusion	203
Removal of firms with missing annual reports in the transaction year	19
Removal of firms with missing CRIF data	87
Total firms remaining	400
Removal of firms with overlapping windows for the LHS variable	57
Removal of firms whose the regression observations have a residual	
3 standard deviations or more than zero	1
Final Sample	342

Table 2.G.2: Distribution of sample by calendar year and acquirer's industry

Panel A: Distribu	tion of sample by caler	ndar year	
Year/Model	Pre-IFRS	Post-IFRS	Full sample
1988	1		1
1989	5		6
1990	7		7
1991	7		7
1992	6		6
1993	12		12
1994	9		9
1995	15		15
1996	23		22
1997	16		16
1998	15		15
1999	27		27
2000	28		28
2001	25		25
2002	16		16
2003	18		18
2004	15		15
2005	20	1	21
2006		28	29
2007		30	31
2008		15	16
Total	265	74	342

Table 2.G.2 (cont.): Distribution of sample by calendar year and acquirer's industry

Panel B: Distribution of sample by acquirer	's Industry		
Industry/Model	Pre-IFRS	Post-IFRS	Full sample
Energy	16	4	20
Chemicals	3	0	4
Construction Materials	5	3	8
Paper & Forest Products	1	0	1
Metals & Mining	73	19	93
Capital Goods	0	0	0
Commercial Services & Supplies	21	8	28
Transportation	7	2	9
Automobiles & Components	0	0	0
Consumer Durables & Apparel	4	0	4
Consumer Services	1	1	2
Media	2	1	3
Retailing	15	3	18
Food & Drug Retailing	22	5	27
Food Beverage & Tobacco	1	0	1
Healthcare Equipment & Services	8	1	9
Pharmaceuticals & Biotechnology	0	0	0
Banks	8	5	13
Diversified Financials	38	11	49
Insurance	2	1	3
Real Estate excluding Investment Trusts	12	1	13
Real Estate Investment Trusts	0	0	0
Software & Services	4	1	5
Technology Hardware & Equipment	7	0	7
Telecommunications Services	9	5	16
Utilities	0	0	0
not specified	6	3	9
Total	265	74	342

Table 2.G.3: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.664	0.016	20.587	-58.728	248.802	265
$IIA_{it}$	0.141	0.000	0.400	0.000	4.253	265
$OTHER_{it}$	3.230	0.148	19.992	-1.209	249.601	265
IIA_Dummy <sub>it</sub>	0.355	0.000	0.479	0.000	1.000	265
$TNI_{it}$	0.187	0.010	1.155	-1.037	17.403	265
$LEV_{it}$	0.981	0.034	4.063	0.000	40.987	265
$TOE_{it}$	13.880	0.000	21.721	0.000	94.500	265
$TER_{it}$	95.796	100.000	11.258	50.100	100.000	265
$CBID_{it}$	0.079	0.000	0.271	0.000	1.000	265
$RELSZ_{it}$	1.311	0.287	9.702	0.001	146.678	265
$MKTBK_{it}$	4.601	1.215	72.316	-580.459	929.191	265
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	265
LIQ <sub>it</sub>	1.280	0.311	5.743	0.001	85.510	265

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.117	0.040	8.976	-9.019	75.940	74
$IIA_{it}$	0.212	0.000	0.767	0.000	5.555	74
$OTHER_{it}$	1.414	0.064	9.005	-0.484	76.940	74
IIA_Dummy <sub>it</sub>	0.270	0.000	0.447	0.000	1.000	74
$TNI_{it}$	0.143	0.007	0.442	-0.229	3.005	74
$LEV_{it}$	0.419	0.008	2.159	0.000	18.453	74
$TOE_{it}$	9.176	0.000	18.101	0.000	82.800	74
$TER_{it}$	93.759	100.000	13.445	51.300	100.000	74
$CBID_{it}$	0.108	0.000	0.313	0.000	1.000	74
$RELSZ_{it}$	0.514	0.292	1.137	0.000	9.642	74
$MKTBK_{it}$	2.099	2.014	15.059	-76.745	43.160	74
$DEFMES_{it}$	0.041	0.000	0.199	0.000	1.000	74
LIQ <sub>it</sub>	0.753	0.259	2.065	0.007	15.380	74

Table 2.G.3 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.335	0.020	18.597	-58.728	248.802	342
$IIA_{it}$	0.155	0.000	0.501	0.000	5.555	342
$OTHER_{it}$	2.831	0.134	18.094	-1.209	249.601	342
IIA_Dummy <sub>it</sub>	0.336	0.000	0.473	0.000	1.000	342
$IFRS_{it}$	0.225	0.000	0.418	0.000	1.000	342
$IIA_{it} * IFRS_{it}$	0.046	0.000	0.366	0.000	5.555	342
$TNI_{it}$	0.175	0.010	1.037	-1.037	17.403	342
$LEV_{it}$	0.853	0.028	3.720	0.000	40.987	342
$TOE_{it}$	12.790	0.000	20.980	0.000	94.500	342
$TER_{it}$	95.273	100.000	11.886	50.100	100.000	342
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	342
$RELSZ_{it}$	1.135	0.288	8.559	0.000	146.678	342
$MKTBK_{it}$	4.017	1.303	64.020	-580.459	929.191	342
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	342
LIQ <sub>it</sub>	1.166	0.294	5.149	0.001	85.510	342

All variables as previously defined All variables are based on observations without regression residual more than three standard deviations from zero.

**Table 2.G.4: Correlation matrix** 

Panel A:	A	В		
A. PREM <sub>it</sub>	1.000	-0.036		
B. IIA <sub>it</sub>	0.053	1.000		

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	-0.036	0.982	0.069	-0.033	-0.016	0.023	0.083	-0.027
B. IIA <sub>it</sub>	0.053	1.000	-0.042	0.436	0.054	0.702	0.065	-0.040	0.019
C. OTHER <sub>it</sub>	0.492	-0.244	1.000	0.051	-0.041	-0.020	0.083	0.083	-0.028
D. IIA_Dummy <sub>it</sub>	0.086	0.973	-0 .183	1.000	-0.072	0.178	0.060	-0.031	0.045
E. IFRS <sub>it</sub>	0.071	-0.061	-0.098	-0.072	1.000	0.235	-0.021	-0.064	-0.097
F. $IIA_{it} * IFRS_{it}$	0.039	0.370	-0 .141	0.359	0.474	1.000	-0.018	-0.018	-0.029
G. TNI <sub>it</sub>	0.044	-0.034	0.131	-0.025	-0.042	-0.029	1.000	0.088	-0.063
H. LEV <sub>it</sub>	0.027	0.008	0.018	-0.003	-0.097	-0.016	0.297	1.000	0.033
I. $TOE_{it}$	0.012	0.026	-0.027	0.022	-0.101	-0.097	-0.036	-0.012	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	-0.036	-0.007	-0.032	-0.082	-0.083	-0.022	0.018
B. IIA <sub>it</sub>	0.053	1.000	-0.031	-0.053	0.060	-0.026	0.027	-0.032
J. $TER_{it}$	-0.014	-0.003	1.000	-0.008	0.028	0.015	0.003	-0.063
K. CBID <sub>it</sub>	-0.089	-0.081	-0.018	1.000	-0.028	-0.012	0.133	-0.026
L. $RELSZ_{it}$	-0.096	-0.116	0.048	-0.108	1.000	0.142	-0.030	-0.009
M. $MKTBK_{it}$	-0.208	0.007	0.134	0.032	0.033	1.000	-0.008	-0.011
N. $DEFMES_{it}$	-0.035	0.069	-0.016	0.133	-0.097	0.033	1.000	-0.021
O. LIQ <sub>it</sub>	0.191	0.042	-0.101	-0.064	-0.137 -	-0.311	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are based on observations without regression residual more than three standard deviations from zero.

**Table 2.G.5: Summary OLS regression results for the observations** 

	$PREM_{pre-IFRS}$ (n=265)				PREM <sub>post-IFRS</sub> (n=75)				PREM <sub>full period</sub> (n=342)			
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-	-value	Coefficient	t-stat	p	-value
Constant	-2.043	-1.540	0.125		-0.011	-0.040	0.972	-1.159	-1.120	0.266		-2.043
$IIA_{it}$	0.498	1.310	0.191		-0.003	-0.040	0.965	0.532	1.510	0.132		0.498
$OTHER_{it}$	1.007	133.030	0.000	***	0.999	199.370	0.000	1.007	147.290	0.000	***	1.007
$IFRS_{it}$								0.079	0.250	0.800		
$IIA_{it}$								-0.380	-0.770	0.443		
$TNI_{it}$	2.975	10.900	0.000	***	0.276	2.510	0.015	2.548	10.810	0.000	***	2.975
$LEV_{it}$	-0.064	-1.690	0.092	*	-0.016	-0.810	0.421	-0.048	-1.440	0.152		-0.064
$TOE_{it}$	0.001	0.200	0.845		0.002	0.600	0.548	0.000	0.050	0.959		0.001
$TER_{it}$	0.016	1.200	0.231		0.002	0.710	0.482	0.007	0.700	0.483		0.016
$CBID_{it}$	0.538	0.950	0.341		-0.190	-1.360	0.178	0.388	0.870	0.384		0.538
$RELSZ_{it}$	-0.553	-17.030	0.000	***	-1.030	-24.030	0.000	-0.512	-17.910	0.000	***	-0.553
$MKTBK_{it}$	-0.009	-4.050	0.000	***	0.004	1.260	0.213	-0.010	-4.740	0.000	***	-0.009
$DEFMES_{it}$	0.465	0.900	0.370		-0.167	-0.760	0.451	0.452	1.000	0.316		0.465
$LIQ_{it}$	-0.007	-0.260	0.797		0.020	0.940	0.353	-0.004	-0.170	0.866		-0.007
2												
Adjusted R <sup>2</sup>	0.986				0.998			0.985				0.986
F-stat	1700.010		0.000	***	4164.530		0.000	1751.440		0.000	***	1700.010

Table 2.G.5 (cont.): Summary OLS regression results for the observations

	$PREM_{pre-IFRS}$ (n=265)			$PREM_{post-IFRS}$ (n=74)				PREM <sub>full period</sub> (n=342)				
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.279	-1.720	0.087	*	0.078	0.270	0.790		-1.342	-1.290	0.197	
$IIA_{it}$	0.138	0.320	0.748		-0.036	-0.650	0.517		0.166	0.430	0.670	
$OTHER_{it}$	1.006	132.790	0.000	***	0.999	224.210	0.000	***	1.006	147.490	0.000	***
IIA_Dummy <sub>it</sub>	0.640	1.790	0.075	*	0.186	1.790	0.079	*	0.645	2.180	0.030	**
$IFRS_{it}$									0.107	0.350	0.730	
$IIA_{it} * IFRS_{it}$									-0.180	-0.360	0.720	
$TNI_{it}$	2.962	10.890	0.000	***	0.363	3.630	0.001	***	2.540	10.840	0.000	***
$LEV_{it}$	-0.062	-1.650	0.100	***	-0.012	-0.670	0.504		-0.046	-1.390	0.166	
$TOE_{it}$	0.001	0.120	0.902		0.001	0.490	0.629		0.000	0.020	0.984	
$TER_{it}$	0.017	1.260	0.210		0.001	0.290	0.776		0.008	0.720	0.474	
$CBID_{it}$	0.604	1.070	0.285		-0.162	-1.300	0.199		0.461	1.040	0.300	**
$RELSZ_{it}$	-0.552	-17.070	0.000	***	-1.057	-27.230	0.000	***	-0.511	-17.990	0.000	***
$MKTBK_{it}$	-0.009	-3.930	0.000	***	0.003	0.920	0.363		-0.009	-4.630	0.000	***
$DEFMES_{it}$	0.418	0.810	0.419		-0.266	-1.300	0.200		0.369	0.820	0.411	
$LIQ_{it}$	-0.006	-0.210	0.832		0.017	0.880	0.384		-0.004	-0.160	0.875	
Adjusted R <sup>2</sup>	0.986				0.999				0.985			
F-stat	1572.120		0.000	***	4828.790		0.000	***	1645.320		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

All variables as previously defined.

All variables are based on observations without regression residual more than three standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.H

**Table 2.H.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.418	0.016	15.337	-4.994	136.162	263
$IIA_{it}$	0.126	0.000	0.310	0.000	2.953	263
$OTHER_{it}$	2.134	0.148	9.650	-0.370	76.940	263
IIA_Dummy <sub>it</sub>	0.350	0.000	0.478	0.000	1.000	263
$TNI_{it}$	0.127	0.011	0.396	-0.229	3.005	263
$LEV_{it}$	0.806	0.040	2.635	0.000	18.453	263
$TOE_{it}$	13.434	0.000	21.096	0.000	82.800	263
$TER_{it}$	95.772	100.000	11.265	51.600	100.000	263
$CBID_{it}$	0.080	0.000	0.272	0.000	1.000	263
$RELSZ_{it}$	0.588	0.283	0.979	0.002	7.339	263
$MKTBK_{it}$	2.236	1.217	5.489	-17.641	43.160	263
$DEFMES_{it}$	0.099	0.000	0.299	0.000	1.000	263
LIQ <sub>it</sub>	0.982	0.314	2.293	0.003	15.380	263

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.187	0.041	8.866	-4.994	75.940	75
$IIA_{it}$	0.173	0.000	0.537	0.000	2.953	75
$OTHER_{it}$	1.432	0.065	8.945	-0.370	76.940	75
IIA_Dummy <sub>it</sub>	0.267	0.000	0.445	0.000	1.000	75
$TNI_{it}$	0.139	0.007	0.441	-0.229	3.005	75
$LEV_{it}$	0.413	0.005	2.145	0.000	18.453	75
$TOE_{it}$	9.280	0.000	18.001	0.000	82.800	75
$TER_{it}$	93.847	100.000	13.361	51.600	100.000	75
$CBID_{it}$	0.107	0.000	0.311	0.000	1.000	75
$RELSZ_{it}$	0.499	0.295	0.893	0.002	7.339	75
$MKTBK_{it}$	2.436	2.033	13.452	-53.203	43.160	75
$DEFMES_{it}$	0.040	0.000	0.197	0.000	1.000	75
LIQ <sub>it</sub>	0.745	0.256	2.052	0.007	15.380	75

Table 2.H.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.152	0.019	8.752	-4.994	136.162	338
$IIA_{it}$	0.143	0.000	0.400	0.000	2.953	338
$OTHER_{it}$	1.269	0.131	6.254	-0.370	76.940	338
IIA_Dummy <sub>it</sub>	0.334	0.000	0.472	0.000	1.000	338
$IFRS_{it}$	0.225	0.000	0.418	0.000	1.000	338
$IIA_{it} * IFRS_{it}$	0.039	0.000	0.262	0.000	2.953	338
$TNI_{it}$	0.118	0.009	0.373	-0.229	3.005	338
$LEV_{it}$	0.710	0.028	2.535	0.000	18.453	338
$TOE_{it}$	12.761	0.000	20.827	0.000	82.800	338
$TER_{it}$	95.310	100.000	11.877	51.600	100.000	338
$CBID_{it}$	0.086	0.000	0.280	0.000	1.000	338
$RELSZ_{it}$	0.542	0.285	0.881	0.002	7.339	338
$MKTBK_{it}$	2.067	1.329	8.728	-53.203	43.160	338
$DEFMES_{it}$	0.086	0.000	0.280	0.000	1.000	338
$LIQ_{it}$	0.933	0.294	2.244	0.003	15.380	338

All variables as previously defined. All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

**Table 2.H.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	-0.038
B. IIA <sub>it</sub>	0.066	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	-0.038	0.952	0.063	-0.054	-0.019	0.224	0.201	0.053
B. IIA <sub>it</sub>	0.066	1.000	-0.068	0.503	0.040	0.615	-0.036	-0.055	0.017
C. OTHER <sub>it</sub>	0.491	-0.257	1.000	0.005	-0.069	-0.030	0.349	0.289	-0.061
D. IIA_Dummy <sub>it</sub>	0.095	0.973 -	-0 .195	1.000	-0.069	0.209	-0.048	-0.066	0.055
E. IFRS <sub>it</sub>	0.066	-0.055	-0.102	-0.066	1.000	0.275	0.027	-0.062	-0.093
F. $IIA_{it} * IFRS_{it}$	0.043	0.374	-0 .138	0.363	0.478	1.000	-0.035	-0.027	-0.034
G. TNI <sub>it</sub>	0.047	-0.044	0.119	-0.033	-0.033	-0.027	1.000	0.194	-0.086
H. $LEV_{it}$	0.040	-0.010	0.015	-0.022	-0.089	-0.016	0.296	1.000	0.020
I. $TOE_{it}$	0.003	0.037	-0.029	0.032	-0.104	-0.097	-0.037	0.002	1.000

Panel C:	A	В	I	K	L	M	N	О
A. $PREM_{it}$	1.000	-0.038	0.036	-0.028	-0.023	-0.032	-0.006	0.029
B. IIA <sub>it</sub>	0.066	1.000	-0.028	-0.057	-0.085	-0.085	0.041	-0.049
J. $TER_{it}$	0.005	-0.014	1.000	-0.009	0.015	0.011	0.003	-0.146
K. CBID <sub>it</sub>	-0.088	-0.080	-0.021	1.000	-0.070	-0.022	0.132	-0.028
L. $RELSZ_{it}$	-0.107	-0.123	0.063	-0.104	1.000	0.173	-0.082	-0.077
M. $MKTBK_{it}$	-0.195	0.010	0.124	0.028	0.051	1.000	0.008	-0.048
N. $DEFMES_{it}$	-0.032	0.071	-0.018	0.132	-0.093	0.028	1.000	-0.016
O. LIQ <sub>it</sub>	0.203	0.030	-0.117	-0.064	-0.138	-0.319	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

Table 2.H.3: Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=263)		PREM	$I_{post-IFRS}$ (1	n=75)		PREM	full period (1	n=338)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	4.114	2.400	0.017	**	0.052	0.180	0.858		0.404	0.840	0.404	
$IIA_{it}$	0.704	1.140	0.255		0.027	0.360	0.719		0.125	0.680	0.498	
$OTHER_{it}$	1.648	77.920	0.000	***	0.997	217.620	0.000	***	1.001	68.350	0.000	***
$IFRS_{it}$									0.156	1.080	0.283	
$IIA_{it} * IFRS_{it}$									-0.221	-0.740	0.457	
$TNI_{it}$	-5.432	-9.770	0.000	***	0.211	2.130	0.037	**	-0.556	-3.220	0.001	***
$LEV_{it}$	-0.391	-5.160	0.000	***	-0.011	-0.610	0.546		0.000	-0.020	0.985	
$TOE_{it}$	0.009	0.950	0.345		0.000	0.110	0.915		0.003	1.020	0.308	
$TER_{it}$	-0.041	-2.390	0.017	**	0.001	0.280	0.783		-0.003	-0.550	0.581	
$CBID_{it}$	0.388	0.550	0.585		-0.183	-1.470	0.147		0.121	0.590	0.553	
$RELSZ_{it}$	-0.798	-3.680	0.000	***	-0.799	-16.090	0.000	***	-0.968	-14.860	0.000	***
$MKTBK_{it}$	-0.001	-0.030	0.979		0.004	1.220	0.228		0.008	1.100	0.272	
$DEFMES_{it}$	-0.396	-0.610	0.543		-0.173	-0.850	0.400		0.079	0.380	0.702	
$LIQ_{it}$	0.005	0.060	0.949		0.018	0.950	0.347		0.001	0.030	0.976	
Adjusted R <sup>2</sup>	0.961				0.999				0.953			
F-stat	584.000		0.000	***	5166.930		0.000	***	525.550		0.000	***

Table 2.H.3 (cont.): Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=263)		PREM	$I_{post-IFRS}$ (1	n=75)		PREM	full period (1	n=338)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	3.929	2.290	0.023	**	0.078	0.270	0.788		0.438	0.390	0.694	
$IIA_{it}$	0.121	0.160	0.870		-0.026	-0.310	0.759		0.122	0.250	0.802	
$OTHER_{it}$	1.645	77.490	0.000	***	0.997	219.310	0.000	***	1.418	62.140	0.000	***
IIA_Dummy <sub>it</sub>	0.682	1.420	0.157		0.150	1.410	0.162		0.783	2.400	0.017	**
$IFRS_{it}$									0.359	1.080	0.281	
$IIA_{it} * IFRS_{it}$									-0.473	-0.690	0.492	
$TNI_{it}$	-5.432	-9.790	0.000	***	0.222	2.250	0.028	**	-2.351	-6.090	0.000	***
$LEV_{it}$	-0.383	-5.060	0.000	***	-0.008	-0.480	0.630		-0.240	-4.440	0.000	***
$TOE_{it}$	0.008	0.840	0.403		0.000	0.120	0.901		0.000	0.080	0.940	
$TER_{it}$	-0.041	-2.390	0.018	**	0.000	0.090	0.931		-0.007	-0.640	0.521	
$CBID_{it}$	0.458	0.640	0.520		-0.174	-1.400	0.167		0.336	0.720	0.472	
$RELSZ_{it}$	-0.762	-3.490	0.001	***	-0.796	-16.160	0.000	***	-0.588	-3.740	0.000	***
$MKTBK_{it}$	-0.001	-0.020	0.981		0.003	0.910	0.366		0.003	0.210	0.833	
$DEFMES_{it}$	-0.436	-0.670	0.503		-0.240	-1.150	0.255		-0.139	-0.290	0.769	
$LIQ_{it}$	0.001	0.010	0.990		0.013	0.700	0.489		-0.010	-0.160	0.871	
Adjusted R <sup>2</sup>	0.961				0.999				0.928			
F-stat	537.670		0.000	***	4811.740		0.000	***	308.980		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IFRS_{it} + \beta_{4}IIA_{it}.IFRS_{it} + \sum_{j=5}^{13}\beta_{j}Control_{jit} + \varepsilon_{it} ......(2)$$

$$Perf_{it} = \alpha_{0} + \alpha_{1}IIA_{it} + \alpha_{2}OTHER_{it} + \alpha_{3}IIA_{Dummy_{it}} + \sum_{i=4}^{12}\alpha_{i}Control_{iit} + \varepsilon_{it} ......(3)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IIA_{Dummy_{it}} + \beta_{4}IFRS_{it} + \beta_{5}IIA_{it}.IFRS_{it} + \sum_{j=6}^{14}\beta_{j}Control_{jit} + \varepsilon_{it} .......(4)$$

All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

## Appendix 2.I

Table 2.I.1: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.342	0.014	1.310	-0.807	5.397	261
$IIA_{it}$	0.108	0.000	0.230	0.000	0.872	261
$OTHER_{it}$	0.586	0.143	1.071	-0.041	4.221	261
IIA_Dummy <sub>it</sub>	0.345	0.000	0.476	0.000	1.000	261
$TNI_{it}$	0.083	0.010	0.155	-0.055	0.576	261
$LEV_{it}$	0.383	0.034	0.726	0.000	2.661	261
$TOE_{it}$	13.043	0.000	19.355	0.000	60.700	261
$TER_{it}$	95.991	100.000	10.400	60.900	100.000	261
$CBID_{it}$	0.077	0.000	0.267	0.000	1.000	261
$RELSZ_{it}$	0.466	0.280	0.473	0.009	1.686	261
$MKTBK_{it}$	1.910	1.217	2.563	-2.227	11.195	261
$DEFMES_{it}$	0.096	0.000	0.295	0.000	1.000	261
LIQ <sub>it</sub>	0.669	0.300	0.912	0.019	3.505	261

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.298	0.043	1.117	-0.807	5.397	76
$IIA_{it}$	0.104	0.000	0.242	0.000	0.872	76
$OTHER_{it}$	0.422	0.067	0.890	-0.041	4.221	76
IIA_Dummy <sub>it</sub>	0.276	0.000	0.450	0.000	1.000	76
$TNI_{it}$	0.081	0.007	0.166	-0.055	0.576	76
$LEV_{it}$	0.207	0.008	0.473	0.000	2.661	76
$TOE_{it}$	8.599	0.000	15.903	0.000	60.700	76
$TER_{it}$	93.776	100.000	12.773	60.900	100.000	76
$CBID_{it}$	0.105	0.000	0.309	0.000	1.000	76
$RELSZ_{it}$	0.416	0.292	0.412	0.009	1.686	76
$MKTBK_{it}$	3.409	2.014	4.189	-2.227	11.195	76
$DEFMES_{it}$	0.039	0.000	0.196	0.000	1.000	76
LIQ <sub>it</sub>	0.546	0.259	0.852	0.019	3.505	76

Table 2.I.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.334	0.019	1.266	-0.807	5.397	338
$IIA_{it}$	0.107	0.000	0.232	0.000	0.872	338
$OTHER_{it}$	0.548	0.132	1.033	-0.041	4.221	338
IIA_Dummy <sub>it</sub>	0.328	0.000	0.470	0.000	1.000	338
$IFRS_{it}$	0.228	0.000	0.420	0.000	1.000	338
$IIA_{it} * IFRS_{it}$	0.023	0.000	0.122	0.000	0.872	338
$TNI_{it}$	0.082	0.010	0.157	-0.055	0.576	338
$LEV_{it}$	0.343	0.027	0.679	0.000	2.661	338
$TOE_{it}$	12.005	0.000	18.686	0.000	60.700	338
$TER_{it}$	95.502	100.000	10.984	60.900	100.000	338
$CBID_{it}$	0.083	0.000	0.276	0.000	1.000	338
$RELSZ_{it}$	0.456	0.285	0.459	0.009	1.686	338
$MKTBK_{it}$	2.235	1.329	3.070	-2.227	11.195	338
$DEFMES_{it}$	0.083	0.000	0.276	0.000	1.000	338
LIQ <sub>it</sub>	0.641	0.288	0.897	0.019	3.505	338

All variables as previously defined. All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

**Table 2.I.1: Correlation matrix** 

Panel A:	A	В
A. $PREM_{it}$	1.000	-0.086
B. IIA <sub>it</sub>	0.046	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. $PREM_{it}$	1.000	-0.086	0.906	0.058	-0.012	-0.037	0.161	0.146	-0.051
B. IIA <sub>it</sub>	0.046	1.000	-0.202	0 .660	-0.009	0.457	-0.048	-0.053	0.024
C. OTHER <sub>it</sub>	0.508	-0.268	1.000	-0.060	-0.069	-0.084	0.221	0.139	-0.038
D. IIA_Dummy <sub>it</sub>	0.075	0.974	-0 .201	1.000	-0.064	0.275	-0.071	-0.082	0.048
E. IFRS <sub>it</sub>	0.078	-0.053	-0.095	-0.064	1.000	0.354	-0.009	-0.109	-0.102
F. $IIA_{it} * IFRS_{it}$	0.044	0.378	-0 .141	0.368	0.474	1.000	-0.043	-0.038	-0.030
G. TNI <sub>it</sub>	0.061	-0.036	0.141	-0.029	-0.042	-0.029	1.000	0.147	-0.061
H. $LEV_{it}$	0.031	-0.004	0.006	-0.013	-0.094	-0.015	0.295	1.000	0.048
I. $TOE_{it}$	0.010	0.035	-0.006	0.026	-0.103	-0.098	-0.039	-0.003	1.000

Panel C:	A	В	J	K	L	M	N	О
A. $PREM_{it}$	1.000	-0.086	-0.025	-0.082	0.050	-0.161	-0.035	0.192
B. IIA <sub>it</sub>	0.046	1.000	-0.054	-0.064	-0.123	0.005	0.027	-0.015
J. $TER_{it}$	-0.019	-0.010	1.000	-0.011	0.044	0.092	0.003	-0.136
K. CBID <sub>it</sub>	-0.107	-0.095	-0.021	1.000	-0.106	-0.031	0.143	-0.031
L. $RELSZ_{it}$	-0.103	-0.142	0.042	-0.116	1.000	0.066	-0.106	-0.119
M. $MKTBK_{it}$	-0.205	0.020	0.138	0.030	0.040	1.000	0.005	-0.217
N. DEFMES <sub>it</sub>	-0.050	0.066	-0.018	0.143	-0.103	0.039	1.000	0.003
O. LIQ <sub>it</sub>	0.196	0.036	-0.103	-0.052	-0.144	-0.308	-0.012	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

**Table 2.I.3: Summary OLS regression results for the observations** 

	PREM	$I_{pre-IFRS}$ (	n=262)		PREM	$I_{post-IFRS}$ (1	n=76)		PREM	full period (1	n=338)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.084	-0.310	0.753		0.293	0.790	0.431		-0.023	-0.110	0.913	
$IIA_{it}$	0.669	5.590	0.000	***	0.257	1.440	0.154		0.563	5.040	0.000	***
$OTHER_{it}$	1.254	44.120	0.000	***	1.281	22.970	0.000	***	1.241	51.970	0.000	***
$IFRS_{it}$									0.174	2.960	0.003	***
$IIA_{it} * IFRS_{it}$									-0.442	-1.980	0.049	**
$TNI_{it}$	0.232	1.230	0.220		0.408	1.480	0.144		0.285	1.880	0.061	*
$LEV_{it}$	-0.025	-0.620	0.535		-0.073	-0.800	0.425		-0.025	-0.730	0.463	
$TOE_{it}$	0.001	0.440	0.661		-0.004	-1.260	0.214		0.000	0.230	0.816	
$TER_{it}$	-0.001	-0.510	0.609		-0.002	-0.630	0.531		-0.001	-0.700	0.485	
$CBID_{it}$	-0.038	-0.360	0.717		-0.139	-1.000	0.319		-0.088	-1.080	0.280	
$RELSZ_{it}$	-0.767	-11.920	0.000	***	-0.771	-5.870	0.000	***	-0.774	-14.120	0.000	***
$MKTBK_{it}$	0.023	2.080	0.039	**	0.003	0.270	0.786		0.013	1.690	0.092	*
$DEFMES_{it}$	0.026	0.270	0.784		-0.263	-1.210	0.231		0.022	0.270	0.791	
$LIQ_{it}$	0.081	2.580	0.011	**	0.016	0.310	0.758		0.057	2.190	0.029	**
1.02												
Adjusted R <sup>2</sup>	0.895				0.903				0.900			
F-stat	203.470		0.000	***	0.000		0.000	***	233.000		0.000	***

Table 2.I.3 (cont.): Summary OLS regression results for the observations

	PREM	I <sub>pre-IFRS</sub> (	n=261)		PREM	$I_{post-IFRS}$ (1	n=76)		PREM	full period (r	n=338)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	.lue
Constant	-0.031	-0.120	0.903		0.274	0.740	0.459		-0.030	-0.140	0.885	
$IIA_{it}$	0.492	3.260	0.001	***	0.052	0.220	0.829		0.473	3.340	0.001	***
$OTHER_{it}$	1.235	45.190	0.000	***	1.278	22.990	0.000	***	1.237	51.140	0.000	***
$IIA\_Dummy_{it}$	0.054	0.740	0.461		0.168	1.260	0.214		0.066	1.030	0.305	
$IFRS_{it}$									0.178	3.020	0.003	***
$IIA_{it} * IFRS_{it}$									-0.435	-1.950	0.052	*
$TNI_{it}$	0.309	1.730	0.084	*	0.432	1.570	0.121		0.286	1.880	0.061	*
$LEV_{it}$	-0.015	-0.390	0.697		-0.068	-0.760	0.451		-0.022	-0.620	0.535	
$TOE_{it}$	0.001	0.620	0.535		-0.003	-1.120	0.268		0.000	0.170	0.869	
$TER_{it}$	-0.002	-0.730	0.464		-0.002	-0.620	0.539		-0.002	-0.730	0.466	
$CBID_{it}$	-0.040	-0.410	0.682		-0.132	-0.960	0.341		-0.081	-1.000	0.319	
$RELSZ_{it}$	-0.784	-12.630	0.000	***	-0.774	-5.920	0.000	***	-0.763	-13.720	0.000	***
$MKTBK_{it}$	0.023	2.170	0.031	**	0.001	0.090	0.928		0.012	1.600	0.111	
$DEFMES_{it}$	0.027	0.310	0.757		-0.332	-1.490	0.142		0.017	0.210	0.834	
$LIQ_{it}$	0.068	2.280	0.024	**	0.005	0.090	0.927		0.055	2.110	0.036	**
Adjusted R <sup>2</sup>	0.904				0.904				0.900			
F-stat	203.950		0.000	***	59.820		0.000	***	216.470		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.J

Table 2.J.1: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	4.220	0.017	32.648	-58.728	416.432	266
IIA <sub>it</sub>	0.230	0.000	0.371	0.000	1.000	266
$OTHER_{it}$	3.218	0.146	19.955	-1.209	249.601	266
IIA_Dummy <sub>it</sub>	0.357	0.000	0.480	0.000	1.000	266
$TNI_{it}$	0.185	0.010	1.153	-1.037	17.403	266
$LEV_{it}$	0.977	0.033	4.056	0.000	40.987	266
$TOE_{it}$	13.828	0.000	21.696	0.000	94.500	266
$TER_{it}$	95.812	100.000	11.240	50.100	100.000	266
$CBID_{it}$	0.079	0.000	0.270	0.000	1.000	266
$RELSZ_{it}$	1.326	0.287	9.687	0.001	146.678	266
$MKTBK_{it}$	4.198	1.213	72.478	-580.459	929.191	266
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	266
LIQ <sub>it</sub>	1.275	0.305	5.733	0.001	85.510	266

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.200	0.045	8.820	-9.019	75.940	77
$IIA_{it}$	0.143	0.000	0.307	0.000	1.000	77
$OTHER_{it}$	1.456	0.065	8.837	-0.484	76.940	77
IIA_Dummy <sub>it</sub>	0.273	0.000	0.448	0.000	1.000	77
$TNI_{it}$	0.135	0.007	0.436	-0.229	3.005	77
$LEV_{it}$	0.411	0.011	2.117	0.000	18.453	77
$TOE_{it}$	9.039	0.000	17.824	0.000	82.800	77
$TER_{it}$	93.470	100.000	13.763	51.300	100.000	77
$CBID_{it}$	0.104	0.000	0.307	0.000	1.000	77
$RELSZ_{it}$	0.528	0.295	1.124	0.000	9.642	77
$MKTBK_{it}$	2.007	1.996	14.784	-76.745	43.160	77
$DEFMES_{it}$	0.039	0.000	0.195	0.000	1.000	77
$LIQ_{it}$	0.773	0.262	2.042	0.007	15.380	77

Table 2.J.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	3.542	0.020	29.065	-58.728	416.432	343
$IIA_{it}$	0.210	0.000	0.359	0.000	1.000	343
$OTHER_{it}$	2.823	0.133	18.068	-1.209	249.601	343
IIA_Dummy <sub>it</sub>	0.338	0.000	0.474	0.000	1.000	343
$IFRS_{it}$	0.224	0.000	0.418	0.000	1.000	343
$IIA_{it} * IFRS_{it}$	0.032	0.000	0.156	0.000	1.000	343
$TNI_{it}$	0.174	0.010	1.036	-1.037	17.403	343
$LEV_{it}$	0.850	0.026	3.714	0.000	40.987	343
$TOE_{it}$	12.753	0.000	20.961	0.000	94.500	343
$TER_{it}$	95.286	100.000	11.872	50.100	100.000	343
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	343
$RELSZ_{it}$	1.147	0.288	8.550	0.000	146.678	343
$MKTBK_{it}$	3.706	1.301	64.186	-580.459	929.191	343
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	343
LIQ <sub>it</sub>	1.162	0.290	5.142	0.001	85.510	343

 $PREM_{it}$ : the acquisition price less the target's market value, deflated by the

acquiring firm's market value at the end of the month, 2 months prior

to the takeover effective month

 $IIA_{it}$  : IIA / IIA + GW

 $OTHER_{it}$ : the amount of acquisition price allocated to liabilities and assets

other than IIA and GW, deflated by the acquiring firm's market value at the end of the month, 2 months prior to the takeover

effective month

*IIA\_Dummy*<sub>it</sub> one if the amount of identifiable intangible assets is more than zero,

zero otherwise

 $IFRS_{it}$  : one if the takeover effectiveness is in the post-IFRS period; zero

otherwise

 $TNI_{it}$ : the target earnings in the year of the acquisition prior to the effective

date of a business combination, deflated by the acquiring firm's market value at the end of the month, 2 months prior to the takeover

effective month

 $LEV_{it}$ : ratio of the target's long-term debt to the target's market value at the

end of the month, 2 months prior to the takeover effective month

 $TOE_{it}$ : the acquirer's pre-takeover ownership percentage in the target firm $TER_{it}$ : the acquirer's post-takeover ownership percentage in the target firm $CBID_{it}$ : one if there was a competing bidder for the target; zero otherwise $RELSZ_{it}$ : ratio of the target's market value to the acquiring firm's market value

at the end of the month, 2 months prior to the takeover effective

t the end of the month, 2 months prior to

month

 $MKTBK_{it}$ : ratio of the target's market value at the end of the month, 2 months

prior to the takeover effective month to the target's book value of

equity

 $DEFMES_{it}$  : one if the target has defensive measures in place; zero otherwise

 $LIQ_{it}$ : ratio of the target's cash, short-term investments, and accounts

receivable to the target's market value at the end of the month, 2

months prior to the takeover effective month

**Table 2.J.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.145
B. IIA <sub>it</sub>	0.098	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. $PREM_{it}$	1.000	0.145 (	.621	0.102	-0.043	-0.023	0.003	0.043	-0.042
B. IIA <sub>it</sub>	0.098	1.000	0.076	0.820	-0.101	0.334	0.095	-0.043	0.024
C. OTHER <sub>it</sub>	0.481	-0.173	1.000	0.050	-0.041	-0.029	0.083	0.083	-0.274
D. IIA_Dummy <sub>it</sub>	0.092	0.974 -	0 .188	1.000	-0.074	0.287	0.058	-0.031	0.043
E. IFRS <sub>it</sub>	0.068	-0.090	-0.096	-0.074	1.000	0.382	-0.020	-0.064	-0.095
F. $IIA_{it} * IFRS_{it}$	0.040	0.320 -	0 .134	0.357	0.474	1.000	-0.024	-0.037	-0.032
G. TNI <sub>it</sub>	0.036	-0.060	0.137	-0.032	-0.039	-0.028	1.000	0.088	-0.062
H. $LEV_{it}$	0.021	-0.022	0.023	-0.008	-0.095	-0.017	0.300	1.000	0.034
I. $TOE_{it}$	0.008	0.015	-0.023	0.018	-0.100	-0.096	-0.032	-0.009	1.000

Panel C:	A	В	J	K	L	M	N	О
A. $PREM_{it}$	1.000	0.145	0.012	-0.033	-0.032	-0.122	-0.027	0.002
B. IIA <sub>it</sub>	0.098	1.000	0.004	-0.089	0.090	-0.068	0.050	-0.053
J. $TER_{it}$	-0.012	0.014	1.000	-0.008	0.028	0.013	0.003	-0.063
K. CBID <sub>it</sub>	-0.090	-0.090	-0.019	1.000	-0.029	-0.011	0.134	-0.026
L. $RELSZ_{it}$	-0.087	-0.108	0.050	-0.109	1.000	0.139	-0.030	-0.010
M. $MKTBK_{it}$	-0.215	-0.016	0.131	0.034	0.024	1.000	-0.007	-0.010
N. $DEFMES_{it}$	-0.036	0.065	-0.016	0.134	-0.098	0.034	1.000	-0.020
O. LIQ <sub>it</sub>	0.181	0.030	-0.103	-0.062	-0.144	-0.300	-0.009	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

Table 2.J.3: Summary OLS regression results for the observations

	PREN	$I_{pre-IFRS}$ (	(n=266)	PRE	$M_{post-IFRS}$	(n=77)		PREM	full period	(n=343)	
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-val	ue	Coefficient	t-stat	p-val	lue
Constant	-2.654	-0.190	0.851	0.459	1.210	0.231		-1.298	-0.120	0.902	
$IIA_{it}$	9.246	2.120	0.035 **	0.143	0.760	0.452		9.239	2.410	0.016	***
$OTHER_{it}$	0.987	12.250	0.000 ***	0.999	162.390	0.000	***	0.986	14.320	0.000	***
$IFRS_{it}$								0.247	0.070	0.942	
$IIA_{it}$								-8.496	-0.900	0.368	
$TNI_{it}$	-1.896	-0.660	0.511	0.241	1.790	0.078	*	-1.692	-0.720	0.473	
$LEV_{it}$	0.019	0.050	0.963	-0.017	-0.720	0.475		0.009	0.030	0.978	
$TOE_{it}$	-0.072	-0.950	0.344	-0.001	-0.270	0.790		-0.060	-0.990	0.321	
$TER_{it}$	0.033	0.230	0.819	-0.002	-0.550	0.583		0.017	0.160	0.870	
$CBID_{it}$	-0.178	-0.030	0.976	-0.256	-1.490	0.140		-0.039	-0.010	0.993	
$RELSZ_{it}$	0.018	0.050	0.959	-1.017	-19.330	0.000	***	-0.006	-0.020	0.984	
$MKTBK_{it}$	-0.050	-2.170	0.031 **	0.002	0.560	0.574		-0.049	-2.430	0.016	***
$DEFMES_{it}$	-0.420	-0.080	0.939	-0.344	-1.180	0.242		-0.629	-0.140	0.890	
$LIQ_{it}$	-0.021	-0.080	0.939	0.030	1.170	0.245		-0.023	-0.090	0.924	
Adjusted R <sup>2</sup>	0.374			0.998				0.390			
F-stat	15.420		0.000 ***	2770.100		0.000	***	17.800		0.000	***

Table 2.J.3 (cont.): Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=266)	PRE	$M_{post-IFRS}$ (	n=77)	PREM	full period (1	n=343)	
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value	Coefficient	t-stat	p-va	lue
Constant	-2.143	-0.150	0.880	0.416	1.100	0.275	-0.945	-0.090	0.929	
$IIA_{it}$	12.495	1.600	0.111	-0.140	-0.510	0.614	11.726	1.880	0.061	*
$OTHER_{it}$	0.987	12.220	0.000 ***	0.999	163.570	0.000 **	* 0.985	14.290	0.000	***
IIA_Dummy <sub>it</sub>	-3.022	-0.500	0.617	0.260	1.390	0.168	-2.306	-0.510	0.614	
$IFRS_{it}$							0.268	0.080	0.937	
$IIA_{it} * IFRS_{it}$							-8.432	-0.890	0.372	
$TNI_{it}$	-1.852	-0.640	0.522	0.254	1.900	0.063 *	-1.679	-0.710	0.477	
$LEV_{it}$	0.020	0.050	0.960	-0.015	-0.610	0.546	0.010	0.030	0.976	
$TOE_{it}$	-0.069	-0.900	0.367	0.000	-0.060	0.950	-0.059	-0.980	0.329	
$TER_{it}$	0.031	0.210	0.832	-0.002	-0.520	0.602	0.016	0.150	0.879	
$CBID_{it}$	-0.253	-0.040	0.967	-0.242	-1.420	0.159	-0.104	-0.020	0.982	
$RELSZ_{it}$	0.010	0.030	0.978	-1.015	-19.430	0.000 **	* -0.010	-0.040	0.972	
$MKTBK_{it}$	-0.050	-2.180	0.030 **	0.001	0.390	0.699	-0.049	-2.440	0.015	**
$DEFMES_{it}$	-0.288	-0.050	0.958	-0.354	-1.230	0.225	-0.513	-0.110	0.911	
$LIQ_{it}$	-0.019	-0.070	0.947	0.020	0.750	0.456	-0.018	-0.070	0.942	
Adjusted R <sup>2</sup>	0.373			0.998			0.388			
F-stat	14.110		0.000 ***	2576.250		0.000 **			0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

## Appendix 2.K

Table 2.K.1: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.904	0.017	17.317	-4.994	136.162	266
$IIA_{it}$	0.230	0.000	0.371	0.000	1.000	266
$OTHER_{it}$	2.113	0.146	9.598	-0.370	76.940	266
IIA_Dummy <sub>it</sub>	0.357	0.000	0.480	0.000	1.000	266
$TNI_{it}$	0.125	0.010	0.394	-0.229	3.005	266
$LEV_{it}$	0.797	0.033	2.621	0.000	18.453	266
$TOE_{it}$	13.767	0.000	21.487	0.000	82.800	266
$TER_{it}$	95.820	100.000	11.210	51.600	100.000	266
$CBID_{it}$	0.079	0.000	0.270	0.000	1.000	266
$RELSZ_{it}$	0.606	0.287	1.015	0.002	7.339	266
$MKTBK_{it}$	1.610	1.213	8.012	-53.203	43.160	266
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	266
$LIQ_{it}$	0.972	0.305	2.282	0.003	15.380	266

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.253	0.045	8.770	-4.994	75.940	77
$IIA_{it}$	0.143	0.000	0.307	0.000	1.000	77
$OTHER_{it}$	1.458	0.065	8.836	-0.370	76.940	77
IIA_Dummy <sub>it</sub>	0.273	0.000	0.448	0.000	1.000	77
$TNI_{it}$	0.135	0.007	0.436	-0.229	3.005	77
$LEV_{it}$	0.411	0.011	2.117	0.000	18.453	77
$TOE_{it}$	9.039	0.000	17.824	0.000	82.800	77
$TER_{it}$	93.474	100.000	13.751	51.600	100.000	77
$CBID_{it}$	0.104	0.000	0.307	0.000	1.000	77
$RELSZ_{it}$	0.498	0.295	0.884	0.002	7.339	77
$MKTBK_{it}$	2.313	1.996	13.303	-53.203	43.160	77
$DEFMES_{it}$	0.039	0.000	0.195	0.000	1.000	77
LIQ <sub>it</sub>	0.773	0.262	2.042	0.007	15.380	77

Table 2.K.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.533	0.020	15.809	-4.994	136.162	343
$IIA_{it}$	0.210	0.000	0.359	0.000	1.000	343
$OTHER_{it}$	1.966	0.133	9.423	-0.370	76.940	343
IIA_Dummy <sub>it</sub>	0.338	0.000	0.474	0.000	1.000	343
$IFRS_{it}$	0.224	0.000	0.418	0.000	1.000	343
$IIA_{it} * IFRS_{it}$	0.032	0.000	0.156	0.000	1.000	343
$TNI_{it}$	0.127	0.010	0.403	-0.229	3.005	343
$LEV_{it}$	0.710	0.026	2.519	0.000	18.453	343
$TOE_{it}$	12.705	0.000	20.791	0.000	82.800	343
$TER_{it}$	95.293	100.000	11.847	51.600	100.000	343
$CBID_{it}$	0.025	0.000	0.279	0.000	1.000	343
$RELSZ_{it}$	0.582	0.288	0.987	0.002	7.339	343
$MKTBK_{it}$	1.768	1.301	9.442	-53.203	43.160	343
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	343
$LIQ_{it}$	0.927	0.290	2.229	0.003	15.380	343

All variables as previously defined. All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

**Table 2.K.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.100
B. $IIA_{it}$	0.098	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	0.100	0.845	0.075	-0.044	-0.029	0.114	0.101	-0.029
B. IIA <sub>it</sub>	0.098	1.000	0.026	0.820	-0.101	0.334	-0.007	-0.067	0.025
C. OTHER <sub>it</sub>	0.481	-0.173	1.000	0.008	-0.029	-0.036	0.260	0.187	-0.035
D. IIA_Dummy <sub>it</sub>	0.092	0.974 -	-0 .188	1.000	-0.074	0.287	-0.020	-0.062	0.045
E. IFRS <sub>it</sub>	0.068	-0.090	-0.065	-0.074	1.000	0.382	0.011	-0.064	-0.095
F. $IIA_{it} * IFRS_{it}$	0.040	0.320	-0.134	0.357	0. 474	1.000	-0.037	-0.043	-0.032
G. TNI <sub>it</sub>	0.036	-0.060	0.137	-0.032	-0.039	-0.028	1.000	0.187	-0.083
H. $LEV_{it}$	0.021	-0.022	0.023	-0.008	-0.094	-0.017	0.300	1.000	0.018
I. $TOE_{it}$	0.008	0.015	-0.023	0.018	-0.100	-0.096	-0.031	-0.009	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	0.100	-0.003	-0.042	0.149	-0.231	-0.030	0.001
B. IIA <sub>it</sub>	0.098	1.000	0.004	-0.089	-0.037	-0.075	0.050	-0.059
J. $TER_{it}$	-0.012	0.014	1.000	-0.008	0.018	0.004	0.004	-0.143
K. CBID <sub>it</sub>	-0.090	-0.090	-0.019	1.000	-0.075	-0.011	0.134	-0.027
L. $RELSZ_{it}$	-0.087	-0.108	0.050	-0.109	1.000	0.050	-0.085	-0.078
M. $MKTBK_{it}$	-0.214	-0.016	0.132	0.034	0.024	1.000	0.017	-0.031
N. DEFMES <sub>it</sub>	-0.036	0.065	-0.016	0.134	-0.098	0.034	1.000	-0.015
O. LIQ <sub>it</sub>	0.181	0.030	-0.103	-0.062	-0.144	-0.299	-0.009	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

Table 2.K.3: Summary OLS regression results for the observations

_	PREM	pre-IFRS (	n=266)		PREM	$I_{post-IFRS}$ (1	n=77)		PREM	full period (1	n=343)	
	Coefficient	t-stat	p-valı	ue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	4.733	1.070	0.287		0.535	1.530	0.130		1.357	0.360	0.716	
$IIA_{it}$	1.941	1.440	0.150		0.174	1.000	0.323		3.142	2.350	0.019	**
$OTHER_{it}$	1.620	29.640	0.000	***	0.996	172.200	0.000	***	1.437	29.820	0.000	***
$IFRS_{it}$									-0.262	-0.220	0.824	
$IIA_{it} * IFRS_{it}$									-0.190	-0.060	0.955	
$TNI_{it}$	-8.584	-6.060	0.000	***	0.175	1.390	0.168		-5.466	-4.560	0.000	***
$LEV_{it}$	-0.285	-1.450	0.150		-0.012	-0.540	0.590		-0.179	-1.000	0.317	
$TOE_{it}$	-0.044	-1.900	0.059	*	-0.002	-0.760	0.449		-0.025	-1.160	0.247	
$TER_{it}$	-0.048	-1.080	0.281		-0.004	-1.060	0.294		-0.019	-0.520	0.606	
$CBID_{it}$	1.282	0.700	0.488		-0.251	-1.590	0.116		0.577	0.370	0.713	
$RELSZ_{it}$	2.298	4.470	0.000	***	-0.779	-12.470	0.000	***	1.742	3.680	0.000	***
$MKTBK_{it}$	-0.471	-7.520	0.000	***	0.002	0.440	0.662		-0.209	-4.410	0.000	***
$DEFMES_{it}$	0.523	0.310	0.756		-0.341	-1.270	0.207		-0.061	-0.040	0.969	
$LIQ_{it}$	0.032	0.140	0.886		0.028	1.200	0.235		0.034	0.170	0.864	
Adjusted R <sup>2</sup>	0.793				0.998				0.749			
F-stat	93.220		0.000	***	3241.610		0.000	***	79.390		0.000	***

Table 2.K.3 (cont.): Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=266)		PREI	$M_{post-IFRS}$ (	(n=77)		$PREM_{f}$	ull period (1	n=343)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	alue	Coefficient	t-stat	p-va	lue
Constant	4.579	1.030	0.304		0.492	1.420	0.160		1.244	0.330	0.739	
$IIA_{it}$	0.731	0.300	0.761		-0.113	-0.450	0.658		1.909	0.870	0.386	
$OTHER_{it}$	1.620	29.600	0.000	***	0.996	174.030	0.000	***	1.437	29.800	0.000	***
$IIA\_Dummy_{it}$	1.126	0.610	0.543		0.264	1.540	0.127		1.138	0.710	0.481	
$IFRS_{it}$									-0.278	-0.230	0.814	
$IIA_{it} * IFRS_{it}$									-0.199	-0.060	0.953	
$TNI_{it}$	-8.608	-6.070	0.000	***	0.188	1.510	0.136		-5.467	-4.560	0.000	***
$LEV_{it}$	-0.281	-1.430	0.155		-0.009	-0.420	0.676		-0.175	-0.980	0.328	
$TOE_{it}$	-0.046	-1.950	0.053	*	-0.002	-0.550	0.588		-0.025	-1.190	0.235	
$TER_{it}$	-0.048	-1.070	0.286		-0.004	-1.030	0.305		-0.019	-0.510	0.608	
$CBID_{it}$	1.308	0.710	0.479		-0.238	-1.530	0.132		0.610	0.390	0.698	
$RELSZ_{it}$	2.324	4.500	0.000	***	-0.777	-12.560	0.000	***	1.766	3.720	0.000	***
$MKTBK_{it}$	-0.471	-7.510	0.000	***	0.001	0.240	0.814		-0.210	-4.440	0.000	***
$DEFMES_{it}$	0.481	0.280	0.776		-0.353	-1.330	0.188		-0.113	-0.070	0.944	
$LIQ_{it}$	0.019	0.080	0.933		0.018	0.730	0.467		0.014	0.070	0.944	
Adjusted R <sup>2</sup>	0.792				0.998				0.748			
F-stat	85.270		0.000	***	3035.030		0.000	****	73.640		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IFRS_{it} + \beta_{4}IIA_{it}.IFRS_{it} + \sum_{j=5}^{13}\beta_{j}Control_{jit} + \varepsilon_{it} ......(2)$$

$$Perf_{it} = \alpha_{0} + \alpha_{1}IIA_{it} + \alpha_{2}OTHER_{it} + \alpha_{3}IIA_{Dummy_{it}} + \sum_{i=4}^{12}\alpha_{i}Control_{iit} + \varepsilon_{it} ......(3)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IIA_{Dummy_{it}} + \beta_{4}IFRS_{it} + \beta_{5}IIA_{it}.IFRS_{it} + \sum_{j=6}^{14}\beta_{j}Control_{jit} + \varepsilon_{it} .......(4)$$

All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

## Appendix 2.L

**Table 2.L.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.411	0.017	1.430	-0.807	5.397	266
$IIA_{it}$	0.230	0.000	0.371	0.000	1.000	266
$OTHER_{it}$	0.610	0.146	1.098	-0.041	4.221	266
IIA_Dummy <sub>it</sub>	0.357	0.000	0.480	0.000	1.000	266
$TNI_{it}$	0.084	0.010	0.157	-0.055	0.576	266
$LEV_{it}$	0.385	0.033	0.726	0.000	2.661	266
$TOE_{it}$	13.026	0.000	19.460	0.000	60.700	266
$TER_{it}$	96.067	100.000	10.316	60.900	100.000	266
$CBID_{it}$	0.079	0.000	0.270	0.000	1.000	266
$RELSZ_{it}$	0.479	0.287	0.481	0.009	1.686	266
$MKTBK_{it}$	1.878	1.213	2.554	-2.227	11.195	266
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	266
$LIQ_{it}$	0.668	0.305	0.907	0.019	3.505	266

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.305	0.045	1.111	-0.807	5.397	77
$IIA_{it}$	0.143	0.000	0.307	0.000	1.000	77
$OTHER_{it}$	0.417	0.065	0.885	-0.041	4.221	77
IIA_Dummy <sub>it</sub>	0.273	0.000	0.448	0.000	1.000	77
$TNI_{it}$	0.080	0.007	0.165	-0.055	0.576	77
$LEV_{it}$	0.206	0.011	0.470	0.000	2.661	77
$TOE_{it}$	8.488	0.000	15.828	0.000	60.700	77
$TER_{it}$	93.844	100.000	12.702	60.900	100.000	77
$CBID_{it}$	0.104	0.000	0.307	0.000	1.000	77
$RELSZ_{it}$	0.422	0.295	0.413	0.009	1.686	77
$MKTBK_{it}$	3.336	1.996	4.210	-2.227	11.195	77
$DEFMES_{it}$	0.039	0.000	0.195	0.000	1.000	77
LIQ <sub>it</sub>	0.547	0.262	0.847	0.019	3.505	77

Table 2.L.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.388	0.020	1.364	-0.807	5.397	343
$IIA_{it}$	0.210	0.000	0.359	0.000	1.000	343
$OTHER_{it}$	0.566	0.133	1.056	-0.041	4.221	343
IIA_Dummy <sub>it</sub>	0.338	0.000	0.474	0.000	1.000	343
$IFRS_{it}$	0.224	0.000	0.418	0.000	1.000	343
$IIA_{it} * IFRS_{it}$	0.032	0.000	0.156	0.000	1.000	343
$TNI_{it}$	0.083	0.010	0.159	-0.055	0.576	343
$LEV_{it}$	0.345	0.026	0.680	0.000	2.661	343
$TOE_{it}$	12.007	0.000	18.780	0.000	60.700	343
$TER_{it}$	95.568	100.000	10.917	60.900	100.000	343
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	343
$RELSZ_{it}$	0.466	0.288	0.467	0.009	1.686	343
$MKTBK_{it}$	2.206	1.301	3.060	-2.227	11.195	343
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	343
$LIQ_{it}$	0.641	0.290	0.894	0.019	3.505	343

All variables as previously defined. All variables are winsorised at the 5<sup>st</sup> and 95<sup>th</sup> percentiles.

**Table 2.L.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.102
B. IIA <sub>it</sub>	0.098	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. $PREM_{it}$	1.000	0.102	0.827	0.108	-0.032	-0.021	0.118	0.112	-0.037
B. IIA <sub>it</sub>	0.098	1.000	0.001	0.820	-0.101	0.334	-0.074	-0.070	0.025
C. OTHER <sub>it</sub>	0.485	-0.173	1.000	-0.033	-0.076	-0.052	0.238	0.156	-0.053
D. IIA_Dummy <sub>it</sub>	0.093	0.974 -	-0 .188	1.000	-0.074	0.287	-0.064	-0.077	0.047
E. IFRS <sub>it</sub>	0.069	-0.090	-0.096	-0.074	1.000	0.382	-0.011	-0.110	-0.101
F. $IIA_{it} * IFRS_{it}$	0.041	0.320	-0.135	0.357	0. 474	1.000	-0.036	-0.048	-0.037
G. TNI <sub>it</sub>	0.039	-0.061	0.139	-0.033	-0.040	-0.028	1.000	0.165	-0.061
H. $LEV_{it}$	0.020	-0.022	0.024	-0.008	-0.095	-0.017	0.299	1.000	0.041
I. $TOE_{it}$	0.010	0.016	-0.023	0.019	-0.100	-0.095	-0.029	-0.008	1.000

Panel C:	A	В	J	K	L	M	N	О
A. $PREM_{it}$	1.000	0.102	-0.007	-0.048	0.088	-0.175	-0.005	0.169
B. IIA <sub>it</sub>	0.098	1.000	0.007	-0.089	-0.106	-0.038	0.050	0.002
J. $TER_{it}$	-0.012	0.015	1.000	-0.009	0.051	0.088	0.005	-0.136
K. CBID <sub>it</sub>	-0.090	-0.090	-0.018	1.000	-0.103	-0.031	0.134	-0.037
L. <i>RELSZ<sub>it</sub></i>	-0.085	-0.109	0.050	-0.108	1.000	0.047	-0.104	-0.117
M. $MKTBK_{it}$	-0.213	-0.015	0.132	0.033	0.023	1.000	0.002	-0.214
N. DEFMES <sub>it</sub>	-0.035	0.065	-0.015	0.134	-0.098	0.034	1.000	0.000
O. LIQ <sub>it</sub>	0.180	0.030	-0.103	-0.062	-0.141	-0.301	-0.009	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles.

**Table 2.L.3: Summary OLS regression results for the observations** 

	PREM	pre-IFRS (	n=266)		PREM	$I_{post-IFRS}$ (1	n=77)		PREM	full period (1	n=343)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.080	-0.170	0.866		0.427	1.040	0.304		-0.030	-0.080	0.934	
$IIA_{it}$	0.318	2.410	0.016	**	0.132	0.800	0.425		0.317	2.650	0.008	***
$OTHER_{it}$	1.153	23.300	0.000	***	1.234	20.170	0.000	***	1.167	28.630	0.000	***
$IFRS_{it}$									0.174	1.620	0.105	
$IIA_{it} * IFRS_{it}$									-0.313	-1.060	0.289	
$TNI_{it}$	-0.222	-0.660	0.510		0.245	0.800	0.424		-0.127	-0.480	0.634	
$LEV_{it}$	-0.078	-1.090	0.275		-0.080	-0.790	0.433		-0.081	-1.330	0.186	
$TOE_{it}$	0.002	0.680	0.496		-0.005	-1.550	0.127		0.001	0.460	0.644	
$TER_{it}$	0.000	-0.070	0.948		-0.003	-0.770	0.442		-0.001	-0.210	0.833	
$CBID_{it}$	0.020	0.110	0.911		-0.180	-1.170	0.247		-0.044	-0.310	0.755	
$RELSZ_{it}$	-0.566	-4.970	0.000	***	-0.650	-4.570	0.000	***	-0.587	-6.150	0.000	***
$MKTBK_{it}$	-0.012	-0.590	0.556		-0.005	-0.400	0.687		-0.006	-0.440	0.659	
$DEFMES_{it}$	0.213	1.280	0.202		-0.308	-1.190	0.240		0.190	1.330	0.183	
$LIQ_{it}$	0.064	1.130	0.260		0.019	0.320	0.747		0.056	1.220	0.225	
Adjusted R <sup>2</sup>	0.704				0.878				0.729			
F-stat	58.180		0.000	***	50.710		0.000	***	71.760		0.000	***

Table 2.L.3 (cont.): Summary OLS regression results for the observations

	PREM <sub>pre-IFRS</sub> (n=266)			PREM	$I_{post-IFRS}$ (1	n=77)		PREM <sub>full period</sub> (n=343)				
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.139	-0.290	0.768		0.373	0.910	0.366		-0.079	-0.220	0.828	
$IIA_{it}$	-0.180	-0.770	0.440		-0.126	-0.530	0.600		-0.124	-0.640	0.522	
$OTHER_{it}$	1.158	23.640	0.000	***	1.237	20.380	0.000	***	1.170	29.030	0.000	***
IIA_Dummy <sub>it</sub>	0.468	2.580	0.011	**	0.236	1.470	0.145		0.413	2.890	0.004	***
$IFRS_{it}$									0.175	1.660	0.098	*
$IIA_{it} * IFRS_{it}$									-0.324	-1.110	0.268	
$TNI_{it}$	-0.293	-0.880	0.380		0.288	0.950	0.345		-0.158	-0.600	0.548	
$LEV_{it}$	-0.066	-0.930	0.354		-0.079	-0.790	0.433		-0.072	-1.200	0.233	
$TOE_{it}$	0.001	0.410	0.679		-0.004	-1.340	0.186		0.001	0.310	0.753	
$TER_{it}$	-0.002	-0.040	0.969		-0.003	-0.690	0.492		-0.001	-0.190	0.853	
$CBID_{it}$	0.031	0.170	0.863		-0.174	-1.140	0.259		-0.032	-0.230	0.820	
$RELSZ_{it}$	-0.538	-4.750	0.000	***	-0.655	-4.640	0.000	***	-0.565	-5.970	0.000	***
$MKTBK_{it}$	-0.013	-0.690	0.492		-0.008	-0.650	0.516		-0.009	-0.680	0.496	
$DEFMES_{it}$	0.197	1.200	0.231		-0.320	-1.240	0.219		0.173	1.230	0.220	
$LIQ_{it}$	0.052	0.920	0.359		0.006	0.100	0.922		0.042	0.920	0.359	
Adjusted R <sup>2</sup>	0.710				0.880				0.735			
F-stat	55.070		0.000	***	47.500		0.000	***	68.720		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.M

Table 2.M.1: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.664	0.016	20.587	-58.728	248.802	265
$IIA_{it}$	0.227	0.000	0.369	0.000	1.000	265
$OTHER_{it}$	3.230	0.148	19.992	-1.209	249.601	265
IIA_Dummy <sub>it</sub>	0.355	0.000	0.479	0.000	1.000	265
$TNI_{it}$	0.187	0.010	1.155	-1.037	17.403	265
$LEV_{it}$	0.981	0.034	4.063	0.000	40.987	265
$TOE_{it}$	13.880	0.000	21.721	0.000	94.500	265
$TER_{it}$	95.796	100.000	11.258	50.100	100.000	265
$CBID_{it}$	0.079	0.000	0.271	0.000	1.000	265
$RELSZ_{it}$	1.311	0.287	9.702	0.001	146.678	265
$MKTBK_{it}$	4.601	1.215	72.316	-580.459	929.191	265
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	265
$LIQ_{it}$	1.280	0.311	5.743	0.001	85.510	265

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.142	0.040	9.165	-9.019	75.940	71
$IIA_{it}$	0.149	0.000	0.316	0.000	1.000	71
$OTHER_{it}$	1.471	0.064	9.191	-0.131	76.940	71
IIA_Dummy <sub>it</sub>	0.282	0.000	0.453	0.000	1.000	71
$TNI_{it}$	0.130	0.004	0.431	-0.229	3.005	71
$LEV_{it}$	0.430	0.005	2.204	0.000	18.453	71
$TOE_{it}$	9.369	0.000	18.410	0.000	82.800	71
$TER_{it}$	93.496	100.000	13.667	51.300	100.000	71
$CBID_{it}$	0.113	0.000	0.318	0.000	1.000	71
$RELSZ_{it}$	0.499	0.260	1.158	0.000	9.642	71
$MKTBK_{it}$	2.019	1.996	15.296	-76.745	43.160	71
$DEFMES_{it}$	0.042	0.000	0.203	0.000	1.000	71
$LIQ_{it}$	0.774	0.262	2.106	0.007	15.380	71

Table 2.M.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.335	0.020	18.597	-58.728	248.802	342
$IIA_{it}$	0.208	0.000	0.357	0.000	1.000	342
$OTHER_{it}$	2.831	0.134	18.094	-1.209	249.601	342
IIA_Dummy <sub>it</sub>	0.336	0.000	0.473	0.000	1.000	342
$IFRS_{it}$	0.225	0.000	0.418	0.000	1.000	342
$IIA_{it} * IFRS_{it}$	0.032	0.000	0.157	0.000	1.000	342
$TNI_{it}$	0.175	0.010	1.037	-1.037	17.403	342
$LEV_{it}$	0.853	0.028	3.720	0.000	40.987	342
$TOE_{it}$	12.790	0.000	20.980	0.000	94.500	342
$TER_{it}$	95.273	100.000	11.886	50.100	100.000	342
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	342
$RELSZ_{it}$	1.135	0.288	8.559	0.000	146.678	342
$MKTBK_{it}$	4.017	1.303	64.020	-580.459	929.191	342
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	342
$LIQ_{it}$	1.166	0.294	5.149	0.001	85.510	342

All variables as previously defined. All variables are based on observations without regression residual more than two standard deviations from zero.

**Table 2.M.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.085
B. $IIA_{it}$	0.090	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	0.085	0.982	0.069	-0.033	-0.023	0.023	0.083	-0.027
B. IIA <sub>it</sub>	0.090	1.000	0.078	0.819	-0.098	0.337	0.097	-0.041	0.028
C. OTHER <sub>it</sub>	0.492	0.167	1.000	0.051	-0.041	-0.029	0.083	0.083	-0.028
D. IIA_Dummy <sub>it</sub>	0.086	0.974 -	-0 .183	1.000	-0.072	0.289	0.060	-0.031	0.045
E. IFRS <sub>it</sub>	0.071	-0.088	-0.098	-0.072	1.000	0.381	-0.021	-0.064	-0.097
F. $IIA_{it} * IFRS_{it}$	0.041	0.323 -	-0 .136	0.359	0.474	1.000	-0.024	-0.037	-0.033
G. TNI <sub>it</sub>	0.044	-0.052	0.131	-0.025	-0.042	-0.030	1.000	0.088	-0.063
H. $LEV_{it}$	0.027	-0.016	0.018	-0.003	-0.097	-0.018	0.297	1.000	0.033
I. $TOE_{it}$	0.012	0.020	-0.027	0.021	-0.101	-0.096	-0.036	-0.012	1.000

Panel C:	A	В	J	K	L	M	N	O
A. PREM <sub>it</sub>	1.000	0.085	-0.007	-0.032	-0.082	-0.083	-0.022	0.018
B. IIA <sub>it</sub>	0.090	1.000	0.001	-0.088	0.087	-0.058	0.052	-0.052
J. $TER_{it}$	-0.014	0.011	1.000	-0.008	0.028	0.015	0.003	-0.063
K. CBID <sub>it</sub>	-0.089	-0.088	-0.018	1.000	-0.028	-0.012	0.133	-0.026
L. $RELSZ_{it}$	-0.096	-0.118	0.048	-0.108	1.000	0.142	-0.030	-0.009
M. $MKTBK_{it}$	-0.208	-0.007	0.134	0.032	0.033	1.000	-0.008	-0.011
N. DEFMES <sub>it</sub>	-0.035	0.067	-0.016	0.133	-0.097	0.033	1.000	-0.021
O. LIQ <sub>it</sub>	0.191	0.039	-0.101	-0.064	-0.137	-0.311	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are based on observations without regression residual more than two standard deviations from zero.

Table 2.M.3: Summary OLS regression results for the observations

	PREM	$I_{pre-IFRS}$ (	n=265)		PREM	$I_{post-IFRS}$ (1	n=71)		PREM	full period (r	n=342)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.149	-1.620	0.106	*	0.135	0.640	0.522		-1.236	-1.190	0.236	
$IIA_{it}$	0.732	1.770	0.077	*	0.177	1.740	0.087	*	0.766	2.000	0.046	**
$OTHER_{it}$	1.005	132.890	0.000	***	1.000	310.680	0.000	***	1.006	147.180	0.000	***
$IFRS_{it}$									0.128	0.380	0.703	
$IIA_{it} * IFRS_{it}$									-0.232	-0.250	0.805	
$TNI_{it}$	2.974	10.940	0.000	***	0.273	3.600	0.001	***	2.547	10.840	0.000	***
$LEV_{it}$	-0.062	-1.650	0.099	*	-0.011	-0.890	0.378		-0.047	-1.390	0.165	
$TOE_{it}$	0.002	0.230	0.820		0.001	0.650	0.521		0.000	0.080	0.939	
$TER_{it}$	0.016	1.210	0.227		0.000	-0.050	0.959		0.007	0.680	0.496	
$CBID_{it}$	0.584	1.040	0.301		-0.127	-1.410	0.163		0.433	0.970	0.331	
$RELSZ_{it}$	-0.553	-17.100	0.000	***	-1.051	-37.210	0.000	***	-0.512	-17.980	0.000	***
$MKTBK_{it}$	-0.009	-3.980	0.000	***	0.003	1.520	0.134		-0.009	-4.670	0.000	***
$DEFMES_{it}$	0.438	0.850	0.397		-0.228	-1.490	0.142		0.406	0.900	0.369	
$LIQ_{it}$	-0.005	-0.200	0.842		0.027	2.000	0.050	**	-0.003	-0.100	0.917	
Adjusted R <sup>2</sup>	0.986				0.999				0.985			
F-stat	1709.650		0.000	***	10125.300		0.000	***	1761.760		0.000	***

Table 2.M.3 (cont.): Summary OLS regression results for the observations

	PREM	$I_{pre-IFRS}$ (	n=265)		PREI	$M_{post-IFRS}$ (1	n=71)		PREM	full period (1	n=342)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.273	-1.710	0.088	*	0.121	0.620	0.538		-1.350	-1.300	0.195	
$IIA_{it}$	-0.056	-0.080	0.939		-0.140	-1.030	0.306		-0.043	-0.070	0.945	
$OTHER_{it}$	1.006	133.070	0.000	***	1.000	335.130	0.000	***	1.006	147.580	0.000	***
$IIA\_Dummy_{it}$	0.730	1.290	0.197		0.302	3.260	0.002	***	0.748	1.660	0.099	*
$IFRS_{it}$									0.121	0.360	0.717	
$IIA_{it} * IFRS_{it}$									-0.250	-0.270	0.789	
$TNI_{it}$	2.965	10.910	0.000	***	0.291	4.130	0.000	***	2.544	10.860	0.000	***
$LEV_{it}$	-0.063	-1.670	0.097	*	-0.008	-0.660	0.510		-0.047	-1.410	0.161	
$TOE_{it}$	0.001	0.130	0.898		0.002	1.100	0.276		0.000	0.030	0.975	
$TER_{it}$	0.017	1.250	0.211		0.000	-0.180	0.856		0.008	0.720	0.471	
$CBID_{it}$	0.602	1.070	0.286		-0.112	-1.340	0.185		0.454	1.020	0.307	
$RELSZ_{it}$	-0.551	-17.050	0.000	***	-1.050	-40.120	0.000	***	-0.511	-17.970	0.000	***
$MKTBK_{it}$	-0.009	-3.930	0.000	***	0.002	1.180	0.243		-0.009	-4.620	0.000	***
$DEFMES_{it}$	0.406	0.790	0.432		-0.249	-1.750	0.085	*	0.369	0.820	0.414	
$LIQ_{it}$	-0.006	-0.220	0.823		0.016	1.250	0.218		-0.004	-0.180	0.860	
2												
Adjusted R <sup>2</sup>	0.986				1.000				0.985			
F-stat	1571.500		0.000	***	10800.400		0.000	***	1644.820		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IFRS_{it} + \beta_{4}IIA_{it}.IFRS_{it} + \sum_{j=5}^{13}\beta_{j}Control_{jit} + \varepsilon_{it} ......(2)$$

$$Perf_{it} = \alpha_{0} + \alpha_{1}IIA_{it} + \alpha_{2}OTHER_{it} + \alpha_{3}IIA\_Dummy_{it} + \sum_{i=4}^{12}\alpha_{i}Control_{iit} + \varepsilon_{it} ......(3)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IIA_{Dummy_{it}} + \beta_{4}IFRS_{it} + \beta_{5}IIA_{it}.IFRS_{it} + \sum_{j=6}^{14}\beta_{j}Control_{jit} + \varepsilon_{it} ..........(4)$$

All variables as previously defined.

All variables are based on observations without regression residual more than two standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.N

Table 2.N.1: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.495	0.017	15.440	-4.994	136.162	259
$IIA_{it}$	0.220	0.000	0.365	0.000	1.000	259
$OTHER_{it}$	2.110	0.152	9.691	-0.370	76.940	259
IIA_Dummy <sub>it</sub>	0.347	0.000	0.477	0.000	1.000	259
$TNI_{it}$	0.103	0.010	0.306	-0.229	3.005	259
$LEV_{it}$	0.809	0.040	2.653	0.000	18.453	259
$TOE_{it}$	13.641	0.000	21.192	0.000	82.800	259
$TER_{it}$	96.009	100.000	10.887	51.600	100.000	259
$CBID_{it}$	0.077	0.000	0.267	0.000	1.000	259
$RELSZ_{it}$	0.540	0.283	0.785	0.002	7.339	259
$MKTBK_{it}$	2.095	1.217	4.904	-17.641	43.160	259
$DEFMES_{it}$	0.100	0.000	0.301	0.000	1.000	259
$LIQ_{it}$	0.964	0.314	2.275	0.003	15.380	259

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.198	0.040	9.114	-4.994	75.940	71
$IIA_{it}$	0.149	0.000	0.316	0.000	1.000	71
$OTHER_{it}$	1.471	0.064	9.191	-0.131	76.940	71
IIA_Dummy <sub>it</sub>	0.282	0.000	0.453	0.000	1.000	71
$TNI_{it}$	0.130	0.004	0.431	-0.229	3.005	71
$LEV_{it}$	0.430	0.005	2.204	0.000	18.453	71
$TOE_{it}$	9.369	0.000	18.410	0.000	82.800	71
$TER_{it}$	93.500	100.000	13.654	51.600	100.000	71
$CBID_{it}$	0.113	0.000	0.318	0.000	1.000	71
$RELSZ_{it}$	0.467	0.260	0.902	0.002	7.339	71
$MKTBK_{it}$	2.350	1.996	13.741	-53.203	43.160	71
$DEFMES_{it}$	0.042	0.000	0.203	0.000	1.000	71
LIQ <sub>it</sub>	0.774	0.262	2.106	0.007	15.380	71

Table 2.N.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
8. $PREM_{it}$	0.754	0.019	4.741	-4.994	65.157	336
$IIA_{it}$	0.204	0.000	0.354	0.000	1.000	336
$OTHER_{it}$	1.046	0.130	4.712	-0.370	65.944	336
IIA_Dummy <sub>it</sub>	0.333	0.000	0.472	0.000	1.000	336
$IFRS_{it}$	0.223	0.000	0.417	0.000	1.000	336
$IIA_{it} * IFRS_{it}$	0.033	0.000	0.158	0.000	1.000	336
$TNI_{it}$	0.110	0.009	0.339	-0.229	3.005	336
$LEV_{it}$	0.714	0.025	2.542	0.000	18.453	336
$TOE_{it}$	12.837	0.000	20.866	0.000	82.800	336
$TER_{it}$	95.282	100.000	11.907	51.600	100.000	336
$CBID_{it}$	0.086	0.000	0.281	0.000	1.000	336
$RELSZ_{it}$	0.538	0.281	0.882	0.002	7.339	336
$MKTBK_{it}$	2.050	1.329	8.745	-53.203	43.160	336
$DEFMES_{it}$	0.086	0.000	0.281	0.000	1.000	336
$LIQ_{it}$	0.937	0.294	2.250	0.003	15.380	336

All variables as previously defined. All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

**Table 2.N.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	-0.005
B. $IIA_{it}$	0.093	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	-0.005	0.978	-0.004	-0.054	-0.020	0.490	0.396	-0.047
B. IIA <sub>it</sub>	0.093	1.000	-0.046	0.817	-0.087	0.345	-0.041	-0.070	0.040
C. OTHER <sub>it</sub>	0.489	-0.189	1.000	-0.061	-0.066	-0.033	0.533	0.397	-0.052
D. IIA_Dummy <sub>it</sub>	0.088	0.974	-0 .202	1.000	-0.061	0.294	-0.034	-0.066	0.056
E. IFRS <sub>it</sub>	0.072	-0.076	-0.104	-0.061	1.000	-0.387	-0.018	-0.062	-0.092
F. $IIA_{it} * IFRS_{it}$	0.046	0.331	-0.132	0.365	0. 481	1.000	-0.034	-0.043	-0.034
G. TNI <sub>it</sub>	0.051	-0.058	0.117	-0.029	-0.043	-0.027	1.000	0.221	-0.080
H. $LEV_{it}$	0.041	-0.034	0.015	-0.021	-0.090	-0.018	0.296	1.000	0.019
I. $TOE_{it}$	0.006	0.034	-0.023	0.034	-0.102	-0.098	-0.033	0.003	1.000

Panel C:	A	В	J	K	L	M	N	О
A. $PREM_{it}$	1.000	-0.005	0.032	-0.025	-0.067	-0.045	0.015	0.076
B. IIA <sub>it</sub>	0.093	1.000	-0.007	-0.086	-0.125	-0.047	0.056	-0.059
J. $TER_{it}$	0.003	-0.002	1.000	-0.008	0.014	0.011	0.004	-0.145
K. CBID <sub>it</sub>	-0.087	-0.087	-0.020	1.000	-0.069	-0.022	0.132	-0.029
L. $RELSZ_{it}$	-0.110	-0.129	0.060	-0.102	1.000	0.171	-0.081	-0.076
M. $MKTBK_{it}$	-0.190	0.005	0.123	0.029	0.047	1.000	0.008	-0.047
N. $DEFMES_{it}$	-0.031	0.071	-0.018	0.132	-0.092	0.029	1.000	-0.016
O. LIQ <sub>it</sub>	0.202	0.024	-0.116	-0.066	-0.133	-0.314	-0.012	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

Table 2.N.3: Summary OLS regression results for the observations

	PREM	I <sub>pre-IFRS</sub> (	n=259)		PREM	$I_{post-IFRS}$ (1	n=71)		PREM	full period (1	n=336)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	2.158	1.290	0.199		0.176	0.870	0.388		0.045	0.130	0.900	
$IIA_{it}$	0.417	0.830	0.406		0.178	1.820	0.074	*	0.381	2.900	0.004	***
$OTHER_{it}$	1.663	81.140	0.000	***	0.998	314.710	0.000	***	0.997	90.090	0.000	***
$IFRS_{it}$									0.152	1.340	0.182	
$IIA_{it} * IFRS_{it}$									-0.290	-0.910	0.366	
$TNI_{it}$	-6.876	-10.180	0.000	***	0.223	3.020	0.004	***	-0.025	-0.170	0.866	
$LEV_{it}$	-0.333	-4.600	0.000	***	-0.007	-0.570	0.571		-0.002	-0.090	0.930	
$TOE_{it}$	0.009	1.030	0.302		0.000	-0.060	0.956		0.002	0.820	0.412	
$TER_{it}$	-0.021	-1.270	0.205		-0.001	-0.560	0.575		-0.001	-0.320	0.747	
$CBID_{it}$	0.410	0.600	0.551		-0.131	-1.520	0.135		0.198	1.330	0.186	
$RELSZ_{it}$	-0.524	-1.980	0.049	**	-0.834	-23.500	0.000	***	-0.709	-14.010	0.000	***
$MKTBK_{it}$	-0.009	-0.230	0.819		0.003	1.440	0.154		0.001	0.280	0.779	
$DEFMES_{it}$	-0.381	-0.620	0.535		-0.217	-1.470	0.146		0.134	0.890	0.377	
$LIQ_{it}$	-0.045	-0.560	0.574		0.024	1.850	0.069	*	0.005	0.270	0.791	
Adjusted R <sup>2</sup>	0.066				0.000				0.075			
F-stat	0.966		0.000	***	0.999		0.000	***	0.975		0.000	***
1 -stat	664.160		0.000	<b>ホホボ</b>	10825.300		0.000	<b>ጥጥ</b>	990.730		0.000	<b>ጥጥ</b>

Table 2.N.3 (cont.): Summary OLS regression results for the observations

	PREM	$I_{pre-IFRS}$ (	n=259)		PRE	$M_{post-IFRS}$ (1	n=71)		$PREM_{f}$	full period (r	n=336)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	1.961	1.180	0.241		0.163	0.860	0.391		-0.008	-0.020	0.982	
$IIA_{it}$	-1.030	-1.180	0.241		-0.121	-0.930	0.357		-0.247	-1.190	0.236	
$OTHER_{it}$	1.663	81.650	0.000	***	0.998	338.670	0.000	***	0.999	92.060	0.000	***
$IIA\_Dummy_{it}$	1.339	2.000	0.046	**	0.287	3.210	0.002	***	0.579	3.830	0.000	***
$IFRS_{it}$									0.144	1.290	0.199	
$IIA_{it} * IFRS_{it}$									-0.293	-0.940	0.349	
$TNI_{it}$	-6.908	-10.290	0.000	***	0.241	3.500	0.001	***	-0.046	-0.310	0.755	
$LEV_{it}$	-0.330	-4.580	0.000	***	-0.004	-0.330	0.742		0.000	-0.020	0.986	
$TOE_{it}$	0.008	0.870	0.386		0.000	0.330	0.744		0.001	0.650	0.518	
$TER_{it}$	-0.021	-1.230	0.219		-0.001	-0.730	0.470		-0.001	-0.330	0.742	
$CBID_{it}$	0.430	0.630	0.529		-0.118	-1.470	0.148		0.216	1.470	0.142	
$RELSZ_{it}$	-0.489	-1.850	0.066	*	-0.834	-25.290	0.000	***	-0.697	-14.030	0.000	***
$MKTBK_{it}$	-0.012	-0.290	0.773		0.002	1.080	0.283		0.000	0.100	0.920	
$DEFMES_{it}$	-0.430	-0.710	0.481		-0.239	-1.740	0.087	*	0.107	0.720	0.474	
$LIQ_{it}$	-0.061	-0.760	0.450		0.014	1.100	0.276		-0.005	-0.260	0.793	
2												
Adjusted R <sup>2</sup>	0.966				0.999				0.976			
F-stat	616.590		0.000	***	11491.900		0.000	***	960.130		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.O

**Table 2.0.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.303	0.013	1.240	-0.807	5.397	255
$IIA_{it}$	0.218	0.000	0.361	0.000	1.000	255
$OTHER_{it}$	0.551	0.142	1.023	-0.041	4.221	255
$IIA\_Dummy_{it}$	0.345	0.000	0.476	0.000	1.000	255
$TNI_{it}$	0.079	0.010	0.147	-0.055	0.576	255
$LEV_{it}$	0.391	0.040	0.732	0.000	2.661	255
$TOE_{it}$	13.097	0.000	19.409	0.000	60.700	255
$TER_{it}$	96.082	100.000	10.364	60.900	100.000	255
$CBID_{it}$	0.075	0.000	0.263	0.000	1.000	255
$RELSZ_{it}$	0.445	0.263	0.451	0.009	1.686	255
$MKTBK_{it}$	1.921	1.217	2.587	-2.227	11.195	255
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	255
$LIQ_{it}$	0.667	0.300	0.902	0.019	3.505	255

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.229	0.040	0.960	-0.807	5.397	72
$IIA_{it}$	0.153	0.000	0.315	0.000	1.000	72
$OTHER_{it}$	0.364	0.062	0.790	-0.041	4.221	72
IIA_Dummy <sub>it</sub>	0.292	0.000	0.458	0.000	1.000	72
$TNI_{it}$	0.084	0.007	0.169	-0.055	0.576	72
$LEV_{it}$	0.207	0.008	0.481	0.000	2.661	72
$TOE_{it}$	8.885	0.000	16.235	0.000	60.700	72
$TER_{it}$	93.499	100.000	13.061	60.900	100.000	72
$CBID_{it}$	0.111	0.000	0.316	0.000	1.000	72
$RELSZ_{it}$	0.381	0.254	0.382	0.009	1.686	72
$MKTBK_{it}$	3.380	2.014	4.125	-2.227	11.195	72
$DEFMES_{it}$	0.042	0.000	0.201	0.000	1.000	72
$LIQ_{it}$	0.563	0.259	0.871	0.019	3.505	72

Table 2.O.1 (cont.): Summary descriptive statistics

Full sample period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.303	0.019	1.210	-0.807	5.397	332
$IIA_{it}$	0.201	0.000	0.351	0.000	1.000	332
$OTHER_{it}$	0.520	0.131	0.993	-0.041	4.221	332
IIA_Dummy <sub>it</sub>	0.328	0.000	0.470	0.000	1.000	332
$IFRS_{it}$	0.232	0.000	0.423	0.000	1.000	332
$IIA_{it} * IFRS_{it}$	0.033	0.000	0.159	0.000	1.000	332
$TNI_{it}$	0.079	0.010	0.151	-0.055	0.576	332
$LEV_{it}$	0.348	0.031	0.684	0.000	2.661	332
$TOE_{it}$	12.028	0.000	18.719	0.000	60.700	332
$TER_{it}$	95.563	100.000	10.971	60.900	100.000	332
$CBID_{it}$	0.081	0.000	0.274	0.000	1.000	332
$RELSZ_{it}$	0.440	0.267	0.442	0.009	1.686	332
$MKTBK_{it}$	2.249	1.329	3.092	-2.227	11.195	332
$DEFMES_{it}$	0.084	0.000	0.278	0.000	1.000	332
$LIQ_{it}$	0.639	0.288	0.890	0.019	3.505	332

All variables as previously defined. All variables are winsorised at the  $5^{th}$  and  $95^{th}$  percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

**Table 2.O.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.072
B. $IIA_{it}$	0.070	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. $PREM_{it}$	1.000	0.072	0.919	0.069	0.001	-0.009	0.102	0.169	-0.066
B. IIA <sub>it</sub>	0.070	1.000	-0.005	0.820	-0.091	0.354	-0.068	-0.079	0.056
C. OTHER <sub>it</sub>	0.540	-0.167	1.000	-0.037	-0.057	-0.047	0.152	0.157	-0.055
D. IIA_Dummy <sub>it</sub>	0.065	0.975 -	0 .181	1.000	-0.065	0.299	-0.050	-0.082	0.056
E. IFRS <sub>it</sub>	0.086	-0.080	-0.092	-0.065	1.000	0.380	0.003	-0.114	-0.104
F. $IIA_{it} * IFRS_{it}$	0.049	0.338	-0.137	0.371	0. 473	1.000	-0.033	-0.050	-0.038
G. TNI <sub>it</sub>	0.058	-0.037	0.117	-0.012	-0.042	-0.030	1.000	0.160	-0.083
H. $LEV_{it}$	0.054	-0.020	0.007	-0.009	-0.104	-0.021	0.299	1.000	0.047
I. $TOE_{it}$	0.001	0.035	-0.013	0.031	-0.104	-0.098	-0.054	-0.010	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	0.072	-0.005	-0.070	-0.005	-0.155	-0.030	0.172
B. IIA <sub>it</sub>	0.070	1.000	0.007	-0.090	-0.156	-0.028	0.067	0.008
J. TER <sub>it</sub>	-0.001	0.012	1.000	-0.018	0.057	0.092	0.001	-0.148
K. CBID <sub>it</sub>	-0.091	-0.094	-0.029	1.000	-0.133	-0.031	0.148	-0.028
L. <i>RELSZ<sub>it</sub></i>	-0.116	-0.143	0.054	-0.131	1.000	0.084	-0.100	-0.139
M. $MKTBK_{it}$	-0.204	-0.010	0.140	0.027	0.048	1.000	0.003	-0.216
N. $DEFMES_{it}$	-0.048	0.068	-0.020	0.148	-0.098	0.039	1.000	0.003
O. LIQ <sub>it</sub>	0.193	0.036	-0.115	-0.056	-0.145	-0.308	-0.012	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

**Table 2.O.3: Summary OLS regression results for the observations** 

	PREM	$I_{pre-IFRS}$ (	n=257)		PREM	$I_{post-IFRS}$ (1	n=73)		$PREM_{j}$	full period (r	n=332)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.074	-0.340	0.735		0.412	1.270	0.209		-0.084	-0.470	0.638	
$IIA_{it}$	0.209	3.320	0.001	***	0.191	1.480	0.144		0.161	2.630	0.009	***
$OTHER_{it}$	1.205	51.320	0.000	***	1.259	25.380	0.000	***	1.210	58.870	0.000	***
$IFRS_{it}$									0.172	3.320	0.001	***
$IIA_{it} * IFRS_{it}$									-0.140	-0.980	0.329	
$TNI_{it}$	0.366	2.290	0.023	**	0.252	0.970	0.335		0.291	2.170	0.031	**
$LEV_{it}$	-0.009	-0.280	0.784		-0.033	-0.410	0.680		-0.007	-0.250	0.802	
$TOE_{it}$	0.001	0.450	0.655		-0.005	-1.920	0.060	*	0.000	0.330	0.738	
$TER_{it}$	-0.001	-0.580	0.565		-0.004	-1.090	0.282		-0.001	-0.290	0.770	
$CBID_{it}$	0.051	0.570	0.568		-0.136	-1.130	0.265		-0.037	-0.530	0.599	
$RELSZ_{it}$	-0.726	-13.190	0.000	***	-0.662	-4.890	0.000	***	-0.763	-15.710	0.000	***
$MKTBK_{it}$	0.019	2.070	0.039	**	-0.006	-0.630	0.530		0.010	1.600	0.111	
$DEFMES_{it}$	0.013	0.170	0.866		-0.323	-1.590	0.117		0.017	0.240	0.813	
$LIQ_{it}$	0.075	2.880	0.004	***	0.011	0.240	0.813		0.046	2.060	0.040	**
Adjusted R <sup>2</sup>	0.923				0.928				0.920			
F-stat	279.790		0.000	***	85.200		0.000	***	293.880		0.000	***

Table 2.O.3 (cont.): Summary OLS regression results for the observations

	PREM	$I_{pre-IFRS}$ (	n=255)		PREN	$I_{post-IFRS}$ (1	n=72)		$PREM_{1}$	full period (1	n=332)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-0.173	-0.860	0.393		0.415	1.400	0.168		-0.114	-0.650	0.518	
$IIA_{it}$	-0.062	-0.610	0.543		-0.131	-0.760	0.449		-0.078	-0.810	0.421	
$OTHER_{it}$	1.200	55.520	0.000	***	1.200	23.880	0.000	***	1.212	59.760	0.000	***
$IIA\_Dummy_{it}$	0.211	2.710	0.007	***	0.305	2.640	0.011	**	0.220	3.150	0.002	***
$IFRS_{it}$									0.172	3.380	0.001	***
$IIA_{it} * IFRS_{it}$									-0.144	-1.020	0.309	
$TNI_{it}$	0.284	1.910	0.057	*	0.423	1.770	0.082	*	0.272	2.060	0.041	**
$LEV_{it}$	0.009	0.300	0.762		-0.041	-0.560	0.575		-0.003	-0.110	0.911	
$TOE_{it}$	0.001	0.700	0.487		-0.003	-1.400	0.167		0.000	0.250	0.806	
$TER_{it}$	0.000	-0.070	0.946		-0.004	-1.320	0.191		0.000	-0.240	0.812	
$CBID_{it}$	0.037	0.460	0.647		-0.147	-1.340	0.186		-0.029	-0.410	0.683	
$RELSZ_{it}$	-0.765	-15.080	0.000	***	-0.698	-5.670	0.000	***	-0.753	-15.670	0.000	***
$MKTBK_{it}$	0.017	2.100	0.036	**	-0.007	-0.820	0.416		0.009	1.340	0.181	
$DEFMES_{it}$	0.015	0.210	0.834		-0.323	-1.760	0.084	*	0.013	0.190	0.846	
$LIQ_{it}$	0.052	2.160	0.032	**	0.010	0.240	0.809		0.038	1.710	0.088	*
Adjusted R <sup>2</sup>	0.933				0.918				0.922			
F-stat	293.490		0.000	***	67.370		0.000	***	281.250		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than two standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.P

**Table 2.P.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.664	0.016	20.587	-58.728	248.802	265
$IIA_{it}$	0.227	0.000	0.369	0.000	1.000	265
$OTHER_{it}$	3.230	0.148	19.992	-1.209	249.601	265
IIA_Dummy <sub>it</sub>	0.355	0.000	0.479	0.000	1.000	265
$TNI_{it}$	0.187	0.010	1.155	-1.037	17.403	265
$LEV_{it}$	0.981	0.034	4.063	0.000	40.987	265
$TOE_{it}$	13.880	0.000	21.721	0.000	94.500	265
$TER_{it}$	95.796	100.000	11.258	50.100	100.000	265
$CBID_{it}$	0.079	0.000	0.271	0.000	1.000	265
$RELSZ_{it}$	1.311	0.287	9.702	0.001	146.678	265
$MKTBK_{it}$	4.601	1.215	72.316	-580.459	929.191	265
$DEFMES_{it}$	0.098	0.000	0.298	0.000	1.000	265
$LIQ_{it}$	1.280	0.311	5.743	0.001	85.510	265

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.117	0.040	8.976	-9.019	75.940	74
$IIA_{it}$	0.143	0.000	0.311	0.000	1.000	74
$OTHER_{it}$	1.414	0.064	9.005	-0.484	76.940	74
IIA_Dummy <sub>it</sub>	0.270	0.000	0.447	0.000	1.000	74
$TNI_{it}$	0.143	0.007	0.442	-0.229	3.005	74
$LEV_{it}$	0.419	0.008	2.159	0.000	18.453	74
$TOE_{it}$	9.176	0.000	18.101	0.000	82.800	74
$TER_{it}$	93.759	100.000	13.445	51.300	100.000	74
$CBID_{it}$	0.108	0.000	0.313	0.000	1.000	74
$RELSZ_{it}$	0.514	0.292	1.137	0.000	9.642	74
$MKTBK_{it}$	2.099	2.014	15.059	-76.745	43.160	74
$DEFMES_{it}$	0.041	0.000	0.199	0.000	1.000	74
LIQ <sub>it</sub>	0.753	0.259	2.065	0.007	15.380	74

Table 2.P.1 (cont.): Summary descriptive statistics

Full sample period	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.335	0.020	18.597	-58.728	248.802	342
$IIA_{it}$	0.208	0.000	0.357	0.000	1.000	342
$OTHER_{it}$	2.831	0.134	18.094	-1.209	249.601	342
IIA_Dummy <sub>it</sub>	0.336	0.000	0.473	0.000	1.000	342
$IFRS_{it}$	0.225	0.000	0.418	0.000	1.000	342
$IIA_{it} * IFRS_{it}$	0.032	0.000	0.157	0.000	1.000	342
$TNI_{it}$	0.175	0.010	1.037	-1.037	17.403	342
$LEV_{it}$	0.853	0.028	3.720	0.000	40.987	342
$TOE_{it}$	12.790	0.000	20.980	0.000	94.500	342
$TER_{it}$	95.273	100.000	11.886	50.100	100.000	342
$CBID_{it}$	0.085	0.000	0.279	0.000	1.000	342
$RELSZ_{it}$	1.135	0.288	8.559	0.000	146.678	342
$MKTBK_{it}$	4.017	1.303	64.020	-580.459	929.191	342
$DEFMES_{it}$	0.085	0.000	0.279	0.000	1.000	342
LIQ <sub>it</sub>	1.166	0.294	5.149	0.001	85.510	342

All variables as previously defined. All variables are based on observations without regression residual more than three standard deviations from zero.

**Table 2.P.2: Correlation matrix** 

Panel A:	A	В
A. PREM <sub>it</sub>	1.000	0.085
B. IIA <sub>it</sub>	0.090	1.000

Panel B:	A	В	С	D	Е	F	G	Н	I
A. $PREM_{it}$	1.000	0.085	0.982	0.069	-0.033	-0.023	0.023	0.083	-0.027
B. IIA <sub>it</sub>	0.090	1.000	0.078	0.819	-0.098	0.337	0.097	-0.041	0.028
C. OTHER <sub>it</sub>	0.492	0.167	1.000	0.051	-0.041	-0.029	0.083	0.083	-0.028
D. IIA_Dummy <sub>it</sub>	0.086	0.974	-0 .183	1.000	-0.072	0.289	0.060	-0.031	0.045
E. IFRS <sub>it</sub>	0.071	-0.088	-0.098	-0.072	1.000	0.381	-0.021	-0.064	-0.097
F. $IIA_{it} * IFRS_{it}$	0.041	0.323	-0 .136	0.359	0.474	1.000	-0.024	-0.037	-0.033
G. TNI <sub>it</sub>	0.044	-0.052	0.131	-0.025	-0.042	-0.030	1.000	0.088	-0.063
H. $LEV_{it}$	0.027	-0.016	0.018	-0.003	-0.097	-0.018	0.297	1.000	0.033
I. $TOE_{it}$	0.012	0.020	-0.027	0.021	-0.101	-0.096	-0.036	-0.012	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	0.085	-0.007	-0.032	-0.082	-0.083	-0.022	0.018
B. IIA <sub>it</sub>	0.090	1.000	0.001	-0.088	0.087	-0.058	0.052	-0.052
J. $TER_{it}$	-0.014	0.011	1.000	-0.008	0.028	0.015	0.003	-0.063
K. CBID <sub>it</sub>	-0.089	-0.088	-0.018	1.000	-0.028	-0.012	0.133	-0.026
L. $RELSZ_{it}$	-0.096	-0.118	0.048	-0.108	1.000	0.142	-0.030	-0.009
M. $MKTBK_{it}$	-0.208	-0.007	0.134	0.032	0.033	1.000	-0.008	-0.011
N. $DEFMES_{it}$	-0.035	0.067	-0.016	0.133	-0.097	0.033	1.000	-0.021
O. LIQ <sub>it</sub>	0.191	0.039	-0.101	-0.064	-0.137	-0.311	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are based on observations without regression residual more than three standard deviations from zero.

**Table 2.P.3: Summary OLS regression results for the observations** 

	PRE	$M_{pre-IFRS}$ (	(n=265)		PRE	$M_{post-IFRS}$	(n=75)		PREM	I <sub>full period</sub>	(n=342)	
	Coefficient	t-stat	p-value	;	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.149	-1.620	0.106 *		0.001	0.000	0.997		-1.236	-1.190	0.236	
$IIA_{it}$	0.732	1.770	0.077 *		0.052	0.330	0.742		0.766	2.000	0.046	**
$OTHER_{it}$	1.005	132.890	0.000 *	**	0.999	199.490	0.000	***	1.006	147.180	0.000	***
$IFRS_{it}$									0.128	0.380	0.703	
$IIA_{it}$									-0.232	-0.250	0.805	
$TNI_{it}$	2.974	10.940	0.000 *	**	0.278	2.530	0.014	***	2.547	10.840	0.000	***
$LEV_{it}$	-0.062	-1.650	0.099 *		-0.016	-0.790	0.430		-0.047	-1.390	0.165	
$TOE_{it}$	0.002	0.230	0.820		0.001	0.560	0.580		0.000	0.080	0.939	
$TER_{it}$	0.016	1.210	0.227		0.002	0.640	0.528		0.007	0.680	0.496	
$CBID_{it}$	0.584	1.040	0.301		-0.187	-1.340	0.185		0.433	0.970	0.331	
$RELSZ_{it}$	-0.553	-17.100	0.000 *	**	-1.029	-24.010	0.000	***	-0.512	-17.980	0.000	***
$MKTBK_{it}$	-0.009	-3.980	0.000 **	**	0.004	1.160	0.252		-0.009	-4.670	0.000	***
$DEFMES_{it}$	0.438	0.850	0.397		-0.204	-0.860	0.395		0.406	0.900	0.369	
$LIQ_{it}$	-0.005	-0.200	0.842		0.020	0.960	0.342		-0.003	-0.100	0.917	
Adjusted R <sup>2</sup>	0.986				0.998				0.985			
F-stat	1709.650		0.000 **	**	4171.660		0.000	***	1761.760		0.000	***

Table 2.P.3 (cont.): Summary OLS regression results for the observations

	PREM	$I_{pre-IFRS}$ (	n=265)		PREI	$M_{post-IFRS}$ (1	n=74)		$PREM_{1}$	full period (1	n=342)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	-2.273	-1.710	0.088	*	0.042	0.150	0.885		-1.350	-1.300	0.195	
$IIA_{it}$	-0.056	-0.080	0.939		-0.155	-0.770	0.447		-0.043	-0.070	0.945	
$OTHER_{it}$	1.006	133.070	0.000	***	0.999	224.450	0.000	***	1.006	147.580	0.000	***
$IIA\_Dummy_{it}$	0.730	1.290	0.197		0.235	1.710	0.093	*	0.748	1.660	0.099	*
$IFRS_{it}$									0.121	0.360	0.717	
$IIA_{it} * IFRS_{it}$									-0.250	-0.270	0.789	
$TNI_{it}$	2.965	10.910	0.000	***	0.364	3.650	0.001	***	2.544	10.860	0.000	***
$LEV_{it}$	-0.063	-1.670	0.097	*	-0.012	-0.670	0.506		-0.047	-1.410	0.161	
$TOE_{it}$	0.001	0.130	0.898		0.001	0.610	0.546		0.000	0.030	0.975	
$TER_{it}$	0.017	1.250	0.211		0.001	0.400	0.687		0.008	0.720	0.471	
$CBID_{it}$	0.602	1.070	0.286		-0.160	-1.290	0.203		0.454	1.020	0.307	
$RELSZ_{it}$	-0.551	-17.050	0.000	***	-1.057	-27.270	0.000	***	-0.511	-17.970	0.000	***
$MKTBK_{it}$	-0.009	-3.930	0.000	***	0.003	0.960	0.340		-0.009	-4.620	0.000	***
$DEFMES_{it}$	0.406	0.790	0.432		-0.234	-1.100	0.274		0.369	0.820	0.414	
$LIQ_{it}$	-0.006	-0.220	0.823		0.014	0.730	0.470		-0.004	-0.180	0.860	
Adjusted R <sup>2</sup>	0.986				0.999				0.985			
F-stat	1571.500		0.000	***	4841.550		0.000	***	1644.820		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IFRS_{it} + \beta_{4}IIA_{it}.IFRS_{it} + \sum_{j=5}^{13}\beta_{j}Control_{jit} + \varepsilon_{it} ......(2)$$

$$Perf_{it} = \alpha_{0} + \alpha_{1}IIA_{it} + \alpha_{2}OTHER_{it} + \alpha_{3}IIA_{Dummy_{it}} + \sum_{i=4}^{12}\alpha_{i}Control_{iit} + \varepsilon_{it} ......(3)$$

$$Perf_{it} = \beta_{0} + \beta_{1}IIA_{it} + \beta_{2}OTHER_{it} + \beta_{3}IIA_{Dummy_{it}} + \beta_{4}IFRS_{it} + \beta_{5}IIA_{it}.IFRS_{it} + \sum_{j=6}^{14}\beta_{j}Control_{jit} + \varepsilon_{it} .......(4)$$

All variables as previously defined.

All variables are based on observations without regression residual more than three standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

# Appendix 2.Q

Table 2.Q.1: Summary descriptive statistics

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	2.418	0.016	15.337	-4.994	136.162	263
$IIA_{it}$	0.223	0.000	0.367	0.000	1.000	263
$OTHER_{it}$	2.134	0.148	9.650	-0.370	76.940	263
IIA_Dummy <sub>it</sub>	0.350	0.000	0.478	0.000	1.000	263
$TNI_{it}$	0.127	0.011	0.396	-0.229	3.005	263
$LEV_{it}$	0.806	0.040	2.635	0.000	18.453	263
$TOE_{it}$	13.434	0.000	21.096	0.000	82.800	263
$TER_{it}$	95.772	100.000	11.265	51.600	100.000	263
$CBID_{it}$	0.080	0.000	0.272	0.000	1.000	263
$RELSZ_{it}$	0.588	0.283	0.979	0.002	7.339	263
$MKTBK_{it}$	2.236	1.217	5.489	-17.641	43.160	263
$DEFMES_{it}$	0.099	0.000	0.299	0.000	1.000	263
LIQ <sub>it</sub>	0.982	0.314	2.293	0.003	15.380	263

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.187	0.041	8.866	-4.994	75.940	75
$IIA_{it}$	0.141	0.000	0.309	0.000	1.000	75
$OTHER_{it}$	1.432	0.065	8.945	-0.370	76.940	75
IIA_Dummy <sub>it</sub>	0.267	0.000	0.445	0.000	1.000	75
$TNI_{it}$	0.139	0.007	0.441	-0.229	3.005	75
$LEV_{it}$	0.413	0.005	2.145	0.000	18.453	75
$TOE_{it}$	9.280	0.000	18.001	0.000	82.800	75
$TER_{it}$	93.847	100.000	13.361	51.600	100.000	75
$CBID_{it}$	0.107	0.000	0.311	0.000	1.000	75
$RELSZ_{it}$	0.499	0.295	0.893	0.002	7.339	75
$MKTBK_{it}$	2.436	2.033	13.452	-53.203	43.160	75
$DEFMES_{it}$	0.040	0.000	0.197	0.000	1.000	75
LIQ <sub>it</sub>	0.745	0.256	2.052	0.007	15.380	75

Table 2.Q.1 (cont.): Summary descriptive statistics

Full sample period	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	1.152	0.019	8.752	-4.994	136.162	338
$IIA_{it}$	0.206	0.000	0.356	0.000	1.000	338
$OTHER_{it}$	1.269	0.131	6.254	-0.370	76.940	338
IIA_Dummy <sub>it</sub>	0.334	0.000	0.472	0.000	1.000	338
$IFRS_{it}$	0.225	0.000	0.418	0.000	1.000	338
$IIA_{it} * IFRS_{it}$	0.033	0.000	0.158	0.000	1.000	338
$TNI_{it}$	0.118	0.009	0.373	-0.229	3.005	338
$LEV_{it}$	0.710	0.028	2.535	0.000	18.453	338
$TOE_{it}$	12.761	0.000	20.827	0.000	82.800	338
$TER_{it}$	95.310	100.000	11.877	51.600	100.000	338
$CBID_{it}$	0.086	0.000	0.280	0.000	1.000	338
$RELSZ_{it}$	0.542	0.285	0.881	0.002	7.339	338
$MKTBK_{it}$	2.067	1.329	8.728	-53.203	43.160	338
$DEFMES_{it}$	0.086	0.000	0.280	0.000	1.000	338
$LIQ_{it}$	0.933	0.294	2.244	0.003	15.380	338

All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

**Table 2.Q.2: Correlation matrix** 

Panel A:	A	В		
A. PREM <sub>it</sub>	1.000	0.100		
B. $IIA_{it}$	0.102	1.000		

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	0.100	0.952	0.063	-0.054	-0.020	0.224	0.201	-0.053
B. IIA <sub>it</sub>	0.102	1.000	0.046	0.818	-0.093	0.342	-0.052	-0.071	0.037
C. OTHER <sub>it</sub>	0.491	-0.179	1.000	0.005	-0.069	-0.032	0.349	0.289	-0.061
D. IIA_Dummy <sub>it</sub>	0.095	0.974	-0 .195	1.000	-0.066	0.292	-0.048	-0.066	0.055
E. IFRS <sub>it</sub>	0.066	-0.081	-0.102	-0.066	1.000	0.384	0.027	-0.062	-0.093
F. $IIA_{it} * IFRS_{it}$	0.045	0.328	-0.133	0.363	0. 478	1.000	-0.035	-0.043	-0.033
G. TNI <sub>it</sub>	0.047	-0.062	0.119	-0.033	-0.033	-0.028	1.000	0.194	-0.086
H. $LEV_{it}$	0.040	-0.035	0.015	-0.022	-0.089	-0.018	0.296	1.000	0.020
I. $TOE_{it}$	0.003	0.031	-0.029	0.032	-0.104	-0.097	-0.037	0.002	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	0.100	0.036	-0.028	-0.023	-0.032	-0.006	0.029
B. IIA <sub>it</sub>	0.102	1.000	-0.005	-0.087	-0.124	-0.049	0.054	-0.059
J. $TER_{it}$	0.005	-0.001	1.000	-0.009	0.015	0.011	0.003	-0.146
K. CBID <sub>it</sub>	-0.088	-0.088	-0.021	1.000	-0.070	-0.022	0.132	-0.028
L. $RELSZ_{it}$	-0.107	-0.125	0.063	-0.104	1.000	0.173	-0.082	-0.077
M. $MKTBK_{it}$	-0.195	-0.004	0.124	0.028	0.051	1.000	0.008	-0.048
N. $DEFMES_{it}$	-0.032	0.069	-0.018	0.132	-0.093	0.028	1.000	-0.016
O. LIQ <sub>it</sub>	0.203	0.027	-0.117	-0.064	-0.138	-0.319	-0.011	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

**Table 2.Q.3: Summary OLS regression results for the observations** 

	PREN	$M_{pre-IFRS}$ (	(n=263)	PRE	$M_{post-IFRS}$	(n=75)		PREM	full period	(n=338)	
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-val	ue	Coefficient	t-stat	p-val	lue
Constant	4.185	2.450	0.015 **	0.068	0.230	0.816		0.404	0.360	0.717	
$IIA_{it}$	0.452	0.870	0.388	0.074	0.530	0.598		1.142	2.810	0.005	***
$OTHER_{it}$	1.645	77.870	0.000 ***	0.997	217.800	0.000	***	1.414	62.170	0.000	***
$IFRS_{it}$								0.501	1.420	0.157	
$IIA_{it}$								-1.257	-1.260	0.207	
$TNI_{it}$	-5.392	-9.730	0.000 ***	0.212	2.140	0.036	**	-2.337	-6.060	0.000	***
$LEV_{it}$	-0.390	-5.130	0.000 ***	-0.010	-0.590	0.556		-0.240	-4.430	0.000	***
$TOE_{it}$	0.008	0.920	0.360	0.000	0.050	0.958		0.001	0.160	0.875	
$TER_{it}$	-0.042	-2.440	0.015 **	0.001	0.200	0.840		-0.007	-0.600	0.550	
$CBID_{it}$	0.407	0.570	0.568	-0.182	-1.460	0.150		0.310	0.660	0.507	
$RELSZ_{it}$	-0.789	-3.620	0.000 ***	-0.798	-16.110	0.000	***	-0.596	-3.800	0.000	***
$MKTBK_{it}$	-0.003	-0.070	0.944	0.004	1.140	0.257		0.006	0.380	0.706	
$DEFMES_{it}$	-0.412	-0.630	0.527	-0.197	-0.920	0.359		-0.070	-0.150	0.882	
$LIQ_{it}$	0.004	0.050	0.959	0.018	0.970	0.336		0.005	0.080	0.934	
Adjusted R <sup>2</sup>	0.961			0.999				0.928			
F-stat	582.670		0.000 ***	5179.240		0.000	***	333.290		0.000	***

Table 2.Q.3 (cont.): Summary OLS regression results for the observations

	PREM	pre-IFRS (	n=263)		PREM	$I_{post-IFRS}$ (1	n=75)		PREM	full period (1	n=338)	
	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	3.993	2.340	0.020	**	0.056	0.190	0.848		0.342	0.310	0.759	
$IIA_{it}$	-1.055	-1.140	0.256		-0.144	-0.720	0.475		0.465	0.700	0.482	
$OTHER_{it}$	1.645	78.330	0.000	***	0.997	220.010	0.000	***	1.416	62.220	0.000	***
$IIA\_Dummy_{it}$	1.397	1.960	0.051	*	0.207	1.510	0.136		0.625	1.300	0.194	
$IFRS_{it}$									0.493	1.400	0.163	
$IIA_{it} * IFRS_{it}$									-1.263	-1.270	0.204	
$TNI_{it}$	-5.420	-9.830	0.000	***	0.223	2.270	0.027	**	-2.348	-6.090	0.000	***
$LEV_{it}$	-0.387	-5.110	0.000	***	-0.008	-0.470	0.640		-0.238	-4.410	0.000	***
$TOE_{it}$	0.007	0.750	0.451		0.001	0.240	0.812		0.001	0.090	0.925	
$TER_{it}$	-0.041	-2.420	0.016	**	0.000	0.160	0.872		-0.007	-0.600	0.552	
$CBID_{it}$	0.439	0.620	0.536		-0.173	-1.400	0.166		0.329	0.700	0.482	
$RELSZ_{it}$	-0.757	-3.480	0.001	***	-0.797	-16.250	0.000	***	-0.584	-3.720	0.000	***
$MKTBK_{it}$	-0.004	-0.100	0.922		0.003	0.940	0.351		0.005	0.320	0.752	
$DEFMES_{it}$	-0.467	-0.720	0.471		-0.212	-1.000	0.320		-0.100	-0.210	0.834	
$LIQ_{it}$	-0.012	-0.140	0.890		0.011	0.550	0.585		-0.006	-0.100	0.920	
Adjusted R <sup>2</sup>	0.961				0.999				0.928			
F-stat	540.510		0.000	***	4844.450		0.000	***	310.260		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \textstyle\sum_{i=3}^{11} \alpha_i \, Control_{iit} + \varepsilon_{it} \, .....(1)$$

All variables as previously defined.

All variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

\*\*\* : Denotes significance at the 1% level
\*\* : Denotes significance at the 5% level
\* : Denotes significance at the 10% level

# Appendix 2.R

**Table 2.R.1: Summary descriptive statistics** 

Pre-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.342	0.014	1.310	-0.807	5.397	261
$IIA_{it}$	0.221	0.000	0.365	0.000	1.000	261
$OTHER_{it}$	0.586	0.143	1.071	-0.041	4.222	261
IIA_Dummy <sub>it</sub>	0.345	0.000	0.476	0.000	1.000	261
$TNI_{it}$	0.083	0.010	0.155	-0.055	0.576	261
$LEV_{it}$	0.383	0.034	0.726	0.000	2.661	261
$TOE_{it}$	13.043	0.000	19.355	0.000	60.700	261
$TER_{it}$	95.991	100.000	10.400	60.900	100.000	261
$CBID_{it}$	0.077	0.000	0.267	0.000	1.000	261
$RELSZ_{it}$	0.466	0.280	0.473	0.009	1.686	261
$MKTBK_{it}$	1.910	1.217	2.563	-2.227	11.195	261
$DEFMES_{it}$	0.096	0.000	0.295	0.000	1.000	261
_LIQ <sub>it</sub>	0.669	0.300	0.912	0.019	3.505	261

Post-IFRS Period:	Mean	Median	SD	Minimum	Maximum	N
$PREM_{it}$	0.298	0.043	1.117	-0.807	5.397	76
$IIA_{it}$	0.145	0.000	0.308	0.000	1.000	76
$OTHER_{it}$	0.422	0.067	0.890	-0.041	4.221	76
IIA_Dummy <sub>it</sub>	0.276	0.000	0.450	0.000	1.000	76
$TNI_{it}$	0.081	0.007	0.166	-0.055	0.576	76
$LEV_{it}$	0.207	0.008	0.473	0.000	2.661	76
$TOE_{it}$	8.599	0.000	15.903	0.000	60.700	76
$TER_{it}$	93.776	100.000	12.773	60.900	100.000	76
$CBID_{it}$	0.105	0.000	0.309	0.000	1.000	76
$RELSZ_{it}$	0.416	0.292	0.412	0.009	1.686	76
$MKTBK_{it}$	3.409	2.014	4.189	-2.227	11.195	76
$DEFMES_{it}$	0.039	0.000	0.196	0.000	1.000	76
LIQ <sub>it</sub>	0.546	0.259	0.852	0.019	3.505	76

Table 2.R.1 (cont.): Summary descriptive statistics

Full sample period	Mean	Median	SD Minimum		Maximum	N
$PREM_{it}$	0.334	0.019	1.266	-0.807	5.397	338
$IIA_{it}$	0.203	0.000	0.354	0.000	1.000	338
$OTHER_{it}$	0.548	0.132	1.033	-0.041	4.221	338
IIA_Dummy <sub>it</sub>	0.328	0.000	0.470	0.000	1.000	338
$IFRS_{it}$	0.228	0.000	0.420	0.000	1.000	338
$IIA_{it} * IFRS_{it}$	0.033	0.000	0.158	0.000	1.000	338
$TNI_{it}$	0.082	0.010	0.157	-0.055	0.576	338
$LEV_{it}$	0.343	0.027	0.679	0.000	2.661	338
$TOE_{it}$	12.005	0.000	18.686	0.000	60.700	338
$TER_{it}$	95.502	100.000	10.984	60.900	100.000	338
$CBID_{it}$	0.083	0.000	0.276	0.000	1.000	338
$RELSZ_{it}$	0.456	0.285	0.459	0.009	1.686	338
$MKTBK_{it}$	2.235	1.329	3.070	-2.227	11.195	338
$DEFMES_{it}$	0.083	0.000	0.276	0.000	1.000	338
$LIQ_{it}$	0.641	0.288	0.897	0.019	3.505	338

All variables as previously defined. All variables are winsorised at the  $5^{th}$  and  $95^{th}$  percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

**Table 2.R.2: Correlation matrix** 

Panel A:	A	В		
A. $PREM_{it}$	1.000	0.066		
B. $IIA_{it}$	0.083	1.000		

Panel B:	A	В	С	D	Е	F	G	Н	I
A. PREM <sub>it</sub>	1.000	0.066	0.906	0.058	-0.012	-0.014	0.161	0.146	-0.051
B. IIA <sub>it</sub>	0.083	1.000	-0.029	0.822	-0.092	0.346	-0.087	-0.082	0.045
C. OTHER <sub>it</sub>	0.508	-0.191	1.000	-0.060	-0.069	-0.502	0.221	0.139	-0.038
D. IIA_Dummy <sub>it</sub>	0.075	0.975 -	-0 .201	1.000	-0.064	0.296	-0.071	-0.082	0.048
E. IFRS <sub>it</sub>	0.078	-0.080	-0.095	-0.064	1.000	0.381	-0.009	-0.082	0.048
F. $IIA_{it} * IFRS_{it}$	0.045	0.333	-0.136	0.368	0.474	1.000	-0.036	-0.048	-0.038
G. TNI <sub>it</sub>	0.061	-0.056	0.141	-0.029	-0.042	-0.030	1.000	0.147	-0.061
H. $LEV_{it}$	0.031	-0.027	0.006	-0.013	-0.094	-0.017	0.295	1.000	0.048
I. $TOE_{it}$	0.010	0.029	-0.006	0.026	-0.103	-0.097	-0.039	-0.003	1.000

Panel C:	A	В	J	K	L	M	N	O
A. $PREM_{it}$	1.000	0.066	-0.025	-0.082	0.050	-0.161	-0.035	0.192
B. IIA <sub>it</sub>	0.083	1.000	-0.001	-0.095	-0.156	-0.023	0.064	-0.001
J. $TER_{it}$	-0.019	0.005	1.000	-0.011	0.044	0.092	0.003	-0.136
K. CBID <sub>it</sub>	-0.107	-0.099	-0.021	1.000	-0.106	-0.031	0.143	-0.031
L. $RELSZ_{it}$	-0.103	-0.142	0.042	-0.116	1.000	0.066	-0.106	-0.119
M. $MKTBK_{it}$	-0.205	0.005	0.138	0.030	0.040	1.000	0.005	-0.217
N. $DEFMES_{it}$	-0.050	0.066	-0.018	0.143	-0.103	0.039	1.000	0.003
O. LIQ <sub>it</sub>	0.196	0.031	-0.103	-0.052	-0.144	-0.308	-0.012	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold. All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

Table 2.R.3: Summary OLS regression results for the observations

	PRE	$M_{pre-IFRS}$ (	(n=261)	PRE	$M_{post-IFRS}$	(n=76)	PREI	M <sub>full period</sub>	(n=338)
	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value	Coefficient	t-stat	p-value
Constant	0.062	0.240	0.808	0.297	0.800	0.429	0.054	0.250	0.800
$IIA_{it}$	0.248	3.380	0.001 ***	0.134	0.900	0.372	0.245	3.420	0.001 ***
$OTHER_{it}$	1.209	44.670	0.000 ***	1.275	22.640	0.000 *:	** 1.216	50.700	0.000 ***
$IFRS_{it}$							0.174	2.820	0.005 ***
$IIA_{it}$							-0.222	-1.300	0.194
$TNI_{it}$	0.358	1.960	0.051 *	0.398	1.430	0.157	0.316	2.040	0.042 **
$LEV_{it}$	-0.014	-0.360	0.721	-0.068	-0.750	0.458	-0.022	-0.610	0.542
$TOE_{it}$	0.001	0.570	0.570	-0.003	-1.190	0.237	0.000	0.110	0.913
$TER_{it}$	-0.003	-0.980	0.327	-0.002	-0.610	0.547	-0.002	-0.990	0.324
$CBID_{it}$	-0.042	-0.420	0.676	-0.144	-1.030	0.306	-0.092	-1.100	0.271
$RELSZ_{it}$	-0.776	-12.300	0.000 ***	-0.779	-5.860	0.000 **	-0.759	-13.420	0.000 ***
$MKTBK_{it}$	0.020	1.880	0.062 *	0.004	0.370	0.713	0.011	1.450	0.147
$DEFMES_{it}$	0.021	0.230	0.815	-0.276	-1.170	0.245	0.017	0.210	0.835
$LIQ_{it}$	0.071	2.320	0.021 **	0.014	0.260	0.792	0.058	2.180	0.030 **
Adjusted R <sup>2</sup>	0.899						0.895		
F-stat	211.080		0.000 ***			0.000 *:			0.000 ***

Table 2.R.3 (cont.): Summary OLS regression results for the observations

	PREM	l <sub>pre-IFRS</sub> (	n=261)		PREM	$I_{post-IFRS}$ (1	n=76)		PREM <sub>full period</sub> (n=338)			
	Coefficient	t-stat	p-val	lue	Coefficient	t-stat	p-va	lue	Coefficient	t-stat	p-va	lue
Constant	0.040	0.160	0.876		0.235	0.640	0.526		0.029	0.140	0.889	
$IIA_{it}$	0.073	0.560	0.573		-0.153	-0.710	0.478		0.046	0.400	0.689	
$OTHER_{it}$	1.211	44.840	0.000	***	1.279	23.110	0.000	***	1.218	51.040	0.000	***
IIA_Dummy <sub>it</sub>	0.162	1.620	0.107		0.262	1.830	0.073	*	0.184	2.190	0.030	**
$IFRS_{it}$									0.175	2.850	0.005	***
$IIA_{it} * IFRS_{it}$									-0.227	-1.330	0.183	
$TNI_{it}$	0.333	1.820	0.069	*	0.449	1.640	0.107		0.302	1.960	0.051	*
$LEV_{it}$	-0.010	-0.260	0.793		-0.067	-0.750	0.456		-0.018	-0.520	0.602	
$TOE_{it}$	0.001	0.430	0.664		-0.003	-0.940	0.353		0.000	0.040	0.970	
$TER_{it}$	-0.002	-0.960	0.339		-0.002	-0.500	0.619		-0.002	-0.960	0.338	
$CBID_{it}$	-0.036	-0.360	0.719		-0.136	-0.990	0.324		-0.084	-1.020	0.308	
$RELSZ_{it}$	-0.766	-12.130	0.000	***	-0.787	-6.030	0.000	***	-0.749	-13.290	0.000	***
$MKTBK_{it}$	0.019	1.810	0.072	*	0.001	0.080	0.934		0.010	1.270	0.206	
$DEFMES_{it}$	0.020	0.220	0.824		-0.288	-1.250	0.217		0.015	0.180	0.860	
$LIQ_{it}$	0.066	2.170	0.031	**	-0.001	-0.010	0.989		0.051	1.930	0.055	*
Adjusted R <sup>2</sup>	0.900				0.905				0.897			
F-stat	194.970		0.000	***	60.300		0.000	***	209.490		0.000	***

Where:

$$Perf_{it} = \alpha_0 + \alpha_1 IIA_{it} + \alpha_2 OTHER_{it} + \sum_{i=3}^{11} \alpha_i Control_{iit} + \varepsilon_{it} \dots (1)$$

All variables as previously defined.

All variables are winsorised at the 5<sup>th</sup> and 95<sup>th</sup> percentiles as well as removal of observations with regression residual more than three standard deviations from zero.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

## Appendix 3.A<sup>43</sup>

Table 3.A.1: Sample identification and description

Panel A: Sample process	
	Number
Full SDC database as at December 2009	28,230
Removal of firms with incomplete status	8,499
Removal of firms with non-Australian GAAP	7,349
Removal of firms with more than 50% pre-takeover and less than 50%	
post-takeover ownership in the target	3,164
Removal of firms with missing competitor's data	4,581
Removal of firms with missing defensive tactics data	3,928
Removal of firms with missing director's recommendations and expert's	
conclusion	203
Removal of firms with missing annual reports in the transaction year	19
Removal of firms with missing CRIF data	87
Removal of firms with missing accounting data for year one after	
takeover	33
Total Firms	367
Removal of firms with missing accounting data for year two after	
takeover	28
Removal of firms with missing accounting data for year three after	
takeover	30
Final sample	309

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 $<sup>^{43}</sup>$  By calculating the figures and ratios of the operating cash flow for a short time period is easy to recognise the performance of the organisation.

Table 3.A.1 (cont.): Sample identification and description

Panel B: Distributio	on of sample by calendar year	ar	
Year	T+1	T+2	T+3
1988	1	1	1
1989	7	7	7
1990	6	6	6
1991	6	6	6
1992	6	6	6
1993	14	14	14
1994	9	9	9
1995	18	18	18
1996	26	26	26
1997	17	17	17
1998	19	19	19
1999	24	24	24
2000	34	34	34
2001	25	25	25
2002	16	16	16
2003	21	21	21
2004	23	23	23
2005	26	26	26
2006	28	28	11
2007	30	13	0
2008	11	0	0
Total	367	339	309

Table 3.A.1 (cont.): Sample identification and description

Industry/Year	T+1	T+2	T+3
Energy	16	16	14
Chemicals	4	4	4
Construction Materials	4	4	4
Paper & Forest Products	2	2	2
Metals & Mining	99	93	83
Capital Goods	7	6	6
Commercial Services & Supplies	18	17	13
Transportation	10	9	9
Automobiles & Components	0	0	0
Consumer Durables & Apparel	3	3	3
Consumer Services	17	17	16
Media	3	2	2
Retailing	19	17	16
Food & Drug Retailing	0	0	0
Food Beverage & Tobacco	21	21	21
Healthcare Equipment & Services	6	6	6
Pharmaceuticals & Biotechnology	8	6	4
Banks	15	11	9
Diversified Financials	58	54	53
Insurance	3	3	2
Real Estate excluding Investment Trusts	5	5	3
Real Estate Investment Trusts	14	13	12
Software & Services	4	4	4
Technology Hardware & Equipment	1	1	1
Telecommunications Services	22	17	15
Utilities	8	8	7
Total	367	339	309

**Table 3.A.2: Descriptive statistics for sample** 

Panel A: Dependent variables						
	Mean	Median	SD	Minimum	Maximum	N
$OCF_{it+1}$	0.078	0.073	0.143	-0.227	0.431	367
$OCF_{it+2}$	0.075	0.075	0.156	-0.255	0.426	339
$OCF_{it+3}$	0.085	0.072	0.163	-0.244	0.511	309
$OCF_{it2-1}$	-0.013	0.001	0.161	-0.455	0.311	339
$OCF_{it3-2}$	0.006	0.000	0.161	-0.388	0.432	309
$OCF_{it3-1}$	-0.009	0.000	0.185	-0.487	0.372	309

Panel B: Independent variables						
	Mean	Median	SD	Minimum	Maximum	N
$IIA_{it}$	0.112	0.000	0.238	0.000	0.866	367
$GW_{it}$	0.232	0.023	0.318	0.000	0.964	367
$IFRS_{it}$	0.191	0.000	0.393	0.000	1.000	367
$IIA_{it} * IFRS_{it}$	0.021	0.000	0.113	0.000	0.866	367
$EP_{it-1}$	0.043	0.048	0.141	-0.316	0.425	367
$MTB_{it-1}$	1.668	1.303	1.442	-0.212	5.333	367
$LEV_{it-1}$	0.243	0.129	0.328	0.000	1.234	367
$RELSZ_{it-1}$	0.593	0.315	0.685	0.011	2.656	367
$MOOD_{it}$	0.087	0.000	0.283	0.000	1.000	367
$METHOD_{it}$	0.030	0.000	0.171	0.000	1.000	367
$RELNS_{it}$	0.643	1.000	0.480	0.000	1.000	367

$OCF_{it+1}$	: OCF, deflated by the acquiring firm's market value at the end of financial year one following the business combination
$OCF_{it+2}$	: OCF, deflated by the acquiring firm's market value at the end of financial year two following the business combination
$OCF_{it+3}$	: OCF, deflated by the acquiring firm's market value at the end of financial year three following the business combination
$OCF_{it2-1}$	: $OCF_{it+2}$ - $OCF_{it+1}$
$OCF_{it3-2}$	$: OCF_{it+3}-OCF_{it+2}$
$OCF_{it3-1}$	: $OCF_{it+3}$ - $OCF_{it+1}$
$IIA_{it}$	: the amount of the takeover purchase price allocated to identifiable intangible assets, deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the effective date of the business combination
$GW_{it}$	: the amount of the takeover purchase price allocated to goodwill, deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the effective date of the business combination
$IFRS_{it}$	one if the takeover effectiveness is in the post-IFRS period; zero otherwise

 $EP_{it-1}$ : ratio of the acquirer earnings (per share) to acquirer's share price

after tax before interest at the end of financial year t-1

 $MTB_{it-1}$  : ratio of the acquirer's market value to the acquirer's book value of

assets at the end of financial year t-1

 $LEV_{it-1}$ : ratio of the acquirer's long-term debt to the acquirer's market value

at the of financial year t-1

 $RELSZ_{it-1}$ : ratio of the target's market value to the acquirer's market value at

the end of financial year t-1

 $MOOD_{it}$  : one if the bidder has hostile mood in place; zero otherwise.  $METHOD_{it}$  : one if the bidder has cash bids in place; zero otherwise

 $RELNS_{it}$ : if both bidder and target were in the same industry; zero otherwise

Table 3.A.3: Correlation matrix for sample firm years

Variable	A	В	С	D	Е	F	G	Н	I	J	K	L
A. $OCF_{it+1}$	1.000	0.524 0.	465	-0.051	0.056	0.213	-0.206	0.262	0.081	0.061	-0.012	0.000
B. $OCF_{it+2}$	0.571	1.000	0.639	-0.086	0.030	0.303	-0.010	0.227	-0.023	0.078	-0.113	0.071
C. $OCF_{it+3}$	0.471 0.	640	1.000	-0.025	0.027	0.225	-0.045	0.265	0.008	0.076	-0.118	0.001
D. $IIA_{it}$	-0.008	-0.024	0.041	1.000	-0.152	-0.108	0.090	-0.086	-0.018	0.000	0.036	-0.009
E. $GW_{it}$	0.133	0.106	0.027	-0.016	1.000	0.086	0.162 0	.148	-0.103	0.020	-0.028	-0.172
F. $EP_{it-1}$	0.255 0.	<b>357 0.</b>	247	-0.029	0.135	1.000	-0.072	0.278	-0.075	-0.009	0.062	-0.009
G. $MTB_{it-1}$	-0.118	0.054	0.020	0.063	0.079	-0.045	1.000	-0.367	-0.100	-0.010	0.026	-0.056
H. $LEV_{it-1}$	0.328 0.	298 0.	278	-0.037	0.216 0	.348	-0.249	1.000	0.020	-0.001	-0.041	-0.047
I. $RELSZ_{it-1}$	0.044	-0.043	-0.029	-0.076	-0.144	-0.099	-0.085	-0.141	1.000	-0.056	0.042	0.010
J. $MOOD_{it}$	0.048	0.076	0.065	0.045	0.045	0.033	0.027	0.051	-0.057	1.000	0.116	-0.112
K. $METHOD_{it}$	-0.019	-0.084	-0.115	0.017	-0.051	-0.002	0.016	-0.024	-0.007	0.116	1.000	0.031
L. RELNS <sub>it</sub>	-0.019	0.051	0.013	-0.023	-0.169	-0.039	-0.055	-0.042	0.088	-0.112	0.031	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal. All correlations significant at the 1% level are bold.

All variables as previously defined.

Table 3.A.4: The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel A: Re	elation of identi	fiable intan	gible asset	s and goodwill wi	th firm perfo	rmance							
	00	$CF_{it+1}$ (n=3)	67)	0	$CF_{it+2}$ (n=3)	39)		00	$OCF_{it+3} $ (n=309)				
	Co-	t-stat	p-value	e Co-	t-stat	p-va	ılue	Co- t-stat p-val			alue		
	efficient			efficient				efficient					
Constant	0.076	7.380	0.000 *	** 0.079	6.950	0.000	***	0.084	6.890	0.000	***		
$IIA_{it}$	-0.026	-0.810	0.416	-0.054	-1.530	0.128		-0.016	-0.380	0.701			
$GW_{it}$	0.022	0.930	0.354	0.010	0.350	0.724		0.014	0.430	0.668			
Adjusted R <sup>2</sup>	-0.001			0.002				-0.005					
F-stat	0.900		0.408	1.320		0.269		0.190		0.831			

Panel B: Re	elation of identi	fiable intan	gible assets and	l goodwill with	firm perfo	rmance with co	ontrol for pre-ac	equisition p	erformance	
	00	$CF_{it+1}$ (n=3)	67)	00	$SF_{it+2}$ (n=3)	39)	OCF <sub>it+3</sub> (n=309)			
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-value	
	efficient			efficient			efficient			
Constant	0.067	6.480	0.000 ***	0.063	5.640	0.000 ***	0.072	5.870	0.000 ***	*
$IIA_{it}$	-0.014	-0.440	0.662	-0.038	-1.120	0.266	-0.009	-0.210	0.834	
$GW_{it}$	0.015	0.660	0.509	-0.006	-0.220	0.826	0.000	0.010	0.994	
$EP_{it-1}$	0.210	4.020	0.000 ***	0.340	5.700	0.000 ***	0.247	4.000	0.000 ***	*
Adjusted R <sup>2</sup>	0.040			0.087			0.042			
F-stat	6.020		0.001 ***	11.770		0.000 ***	5.460		0.001 ***	*

Table 3.A.4 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel C: Relation of identifiable intangible assets and goodwill with changes in firm performance with control for pre-acquisition

performance

	$OCF_{it+2}$	$_{2}$ - $OCF_{it+1}$ (	n=339)	$OCF_{it+1}$	$_{3}$ - $0CF_{it+2}$ (	n=309)	$OCF_{it+3}$ - $OCF_{it+1}$ (n=309)		
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-value
	efficient			efficient			efficient		
Constant	-0.014	-1.190	0.237	0.014	1.080	0.279	-0.002	-0.150	0.880
$IIA_{it}$	-0.034	-0.910	0.362	0.033	0.790	0.433	0.005	0.100	0.917
$GW_{it}$	0.019	0.620	0.535	-0.023	-0.730	0.465	0.000	0.000	1.000
$EP_{it-1}$	0.018	0.280	0.783	-0.123	-1.970	0.050 **	-0.136	-1.900	0.059 *
Adjusted R <sup>2</sup>	-0.004			0.009			0.002		
F-stat	0.520		0.667	1.910		0.128	1.230		0.299

Table 3.A.4 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel D: Relation of identifiable intangible assets and goodwill with firm performance with controls for pre-acquisition performance and characteristics of the acquisition.

	0.002		00	$CF_{it+2}$ (n=3)	39)	00	$OCF_{it+3}$ (n=309)			
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-value	
_	efficient			efficient			efficient			
Constant	0.054	2.650	0.008 ***	0.007	0.300	0.761	0.028	1.110	0.266	
$IIA_{it}$	0.002	0.060	0.952	-0.031	-0.940	0.350	0.003	0.080	0.934	
$GW_{it}$	0.022	0.940	0.348	-0.023	-0.830	0.408	-0.026	-0.830	0.408	
$EP_{it-1}$	0.166	3.140	0.002 ***	0.309	5.100	0.000 ***	0.214	3.440	0.001 ***	
$MTB_{it-1}$	-0.013	-2.410	0.016 **	0.010	1.670	0.097 *	0.006	0.790	0.429	
$LEV_{it-1}$	0.069	2.800	0.006 ***	0.089	3.190	0.002 ***	0.141	3.970	0.000 ***	
$RELSZ_{it-1}$	0.018	1.710	0.088 *	0.001	0.100	0.923	0.008	0.620	0.533	
$MOOD_{it}$	0.035	1.390	0.166	0.062	2.230	0.026 **	0.057	1.870	0.063 *	
$METHOD_{it}$	-0.019	-0.460	0.645	-0.132	-2.790	0.006 ***	-0.144	-2.830	0.005 ***	
$RELNS_{it}$	0.005	0.340	0.732	0.031	1.820	0.070 *	0.005	0.250	0.805	
Adjusted R <sup>2</sup>	0.096			0.134			0.104			
F-stat	5.330		0.000 ***	6.820		0.000 ***	4.960		0.000 ***	

Where:

 $Perf_{it} = \propto_0 + \propto_1 IIA_{it} + \propto_2 GW_{it} + \sum_{j=3}^9 \propto_j Control_{jit} + \varepsilon_{it}$  .....(1)

All variables as previously defined.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

Table 3.A.5: The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel A: Relati	ion of identifiabl	le intangibl	e assets and go	odwill with firm	performance	2			
	OC	$F_{it+1}$ (n=3	67)	00	$F_{it+2}$ (n=339)	9)	$OCF_{it+3}$ (n=309)		
	Co-efficient t-stat p-value 0.076 7.270 0.000 ***			Co-efficient	t-stat	p-value	Co-efficient	t-stat	p-value
Constant	0.076	7.270	0.000 ***	0.079	6.850	0.000 ***	0.085	6.870	0.000 ***
$IIA_{it}$	-0.014	-0.390	0.698	-0.050	-1.310	0.190	-0.016	-0.370	0.708
$GW_{it}$	0.027	1.060	0.291	0.013	0.430	0.665	0.022	0.670	0.500
$IFRS_{it}$	-0.010	-0.430	0.665	-0.010	-0.340	0.732	-0.031	-0.570	0.572
$IIA_{it} * IFRS_{it}$	-0.060	-0.750	0.454	-0.026	-0.250	0.800	-0.545	-0.770	0.441
Adjusted R <sup>2</sup>	-0.003			-0.003			-0.007		
F-stat	0.760		0.551	0.730		0.571	0.490		0.746

Panel B: Rela	tion of identifi	able intan	gible assets and	d goodwill with	firm perfor	rmance with co	ntrol for pre-ac	quisition p	erformance	
	00	$F_{it+1}$ (n=3)	367)	00	$CF_{it+2}$ (n=3)	39)	$OCF_{it+3}$ (n=309)			
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-value	
	efficient			efficient			efficient			
Constant	0.067	6.310	0.000 ***	0.063	5.510	0.000 ***	0.072	5.810	0.000 ***	
$IIA_{it}$	-0.004	-0.120	0.908	-0.037	-1.020	0.310	-0.008	-0.180	0.856	
$GW_{it}$	0.017	0.670	0.501	-0.006	-0.210	0.837	0.008	0.260	0.794	
$EP_{it-1}$	0.207	3.920	0.000 ***	0.340	5.650	0.000 ***	0.248	4.000	0.000 ***	
$IFRS_{it}$	-0.001	-0.060	0.952	-0.001	-0.020	0.982	-0.020	-0.380	0.701	
$IIA_{it}$	-0.051	-0.640	0.520	-0.005	-0.050	0.959	-0.664	-0.960	0.337	
* IFRS <sub>it</sub>										
Adjusted R <sup>2</sup>	0.036			0.082			0.041			
F-stat	3.700		0.003 ***	7.020		0.000 ***	3.610		0.003 ***	

Table 3.A.5 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel C: Relati	on of identifiabl	e intangibl	e assets and g	oodwill with chang	ges in firm p	erformance wi	ith control for pre-	-acquisition	performance	
	-0.018 -1.470 0.142 -0.022 -0.550 0.583 0.008 0.270 0.786 0.022 0.350 0.730 0.046 1.550 0.123 -0.097 -0.910 0.361			$OCF_{it+3}$	$_{3}$ - $OCF_{it+2}$ (n	n=309)	$OCF_{it+3}$ - $OCF_{it+1}$ (n=309)			
	Co-efficient	t-stat	p-value	Co-efficient	t-stat	p-value	Co-efficient	t-stat	p-value	
Constant	-0.018	-1.470	0.142	0.012	0.990	0.322	-0.003	-0.210	0.836	
$IIA_{it}$	-0.022	-0.550	0.583	0.036	0.850	0.395	0.008	0.160	0.875	
$GW_{it}$	0.008	0.270	0.786	-0.020	-0.610	0.541	0.004	0.120	0.904	
$EP_{it-1}$	0.022	0.350	0.730	-0.120	-1.920	0.056 **	-0.134	-1.860	0.064 *	
$IFRS_{it}$	0.046	1.550	0.123	0.053	0.400	0.689	0.012	0.200	0.845	
$IIA_{it} * IFRS_{it}$	-0.097	-0.910	0.361	-0.693	-0.990	0.322	-0.697	-0.870	0.387	
Adjusted R <sup>2</sup>	-0.003			0.006			-0.002			
F-stat	0.810		0.542	1.340		0.248	0.890		0.487	

Table 3.A.5 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel D: Relation of identifiable intangible assets and goodwill with firm performance with controls for pre-acquisition performance and

characteristics of the acquisition.

	00	$CF_{it+1}$ (n=3	367)		00	$F_{it+2}$ (n=33)	9)		00	$F_{it+3}$ (n=30)	9)	
	Co-	t-stat	p-va	lue	Co-efficient	t-stat	p-va	alue	Co-efficient	t-stat	p-va	alue
	efficient											
Constant	0.053	2.570	0.011	***	0.006	0.280	0.777		0.028	1.100	0.274	
$IIA_{it}$	0.013	0.380	0.706		-0.029	-0.820	0.413		0.006	0.150	0.884	
$GW_{it}$	0.023	0.910	0.363		-0.022	-0.760	0.446		-0.022	-0.670	0.503	
$EP_{it-1}$	0.162	3.010	0.003	***	0.307	5.020	0.000	***	0.217	3.470	0.001	***
$IFRS_{it}$	0.000	0.020	0.988		-0.005	-0.180	0.857		0.015	0.270	0.787	
$IIA_{it} * IFRS_{it}$	-0.058	-0.760	0.450		-0.013	-0.140	0.891		-0.721	-1.070	0.284	
$MTB_{it-1}$	-0.013	-2.350	0.019	***	0.010	1.680	0.093	*	0.006	0.800	0.427	
$LEV_{it-1}$	0.071	2.850	0.005	***	0.090	3.190	0.002	***	0.141	3.950	0.000	***
$RELSZ_{it-1}$	0.017	1.640	0.102	*	0.001	0.008	0.936		0.007	0.580	0.560	
$MOOD_{it}$	0.036	1.420	0.157		0.063	2.230	0.026	**	0.056	1.820	0.069	*
$METHOD_{it}$	-0.016	-0.390	0.700		-0.130	-2.710	0.007	***	-0.145	-2.750	0.006	***
$RELNS_{it}$	0.006	0.420	0.674		0.031	1.830	0.068	*	0.005	0.240	0.808	
Adjusted R <sup>2</sup>	0.093				0.129				0.101			
F-stat	4.410		0.000	***	5.550		0.000	***	4.150		0.000	***

Where:

$$Perf_{it} = \beta_0 + \beta_1 IIA_{it} + \beta_2 GW_{it} + \beta_3 IFRS_{it} + \beta_4 IIA_{it}.IFRS_{it} + \sum_{j=6}^{12} \beta_j \ Control_{jit} + \varepsilon_{it} \ .....(2)$$

All variables as previously defined.

: Denotes significance at the 1% level

\*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

## Appendix<sup>44</sup> 3.B

Table 3.B.1: Sample identification and description

	Number
Full SDC database as at December 2009	28,230
Removal of firms with incomplete status	8,499
Removal of firms with non-Australian GAAP	7,349
Removal of firms with more than 50% pre-takeover and less than 50%	
post-takeover ownership in the target	3,164
Removal of firms with missing competitor's data	4,581
Removal of firms with missing defensive tactics data	3,928
Removal of firms with missing director's recommendations and expert's	
conclusion	203
Removal of firms with missing annual reports in the transaction year	19
Removal of firms with missing CRIF data	87
Removal of firms with missing accounting data for year one after	
takeover	33
Total Firms	367
Removal of firms with missing accounting data for year two after	
takeover	28
Removal of firms with missing accounting data for year three after	
takeover	30
Final sample	309

 $<sup>^{44}</sup>$  The stock market performance of firms is of interest to stakeholders, information intermediaries, security market regulators and managers of corporations.

Table 3.B.1 (cont.): Sample identification and description

Panel B: Distribution	on of sample by calendar year	ar	
Year	T+1	T+2	T+3
1988	1	1	1
1989	7	7	7
1990	6	6	6
1991	6	6	6
1992	6	6	6
1993	14	14	14
1994	9	9	9
1995	18	18	18
1996	26	26	26
1997	17	17	17
1998	19	19	19
1999	24	24	24
2000	34	34	34
2001	25	25	25
2002	16	16	16
2003	21	21	21
2004	23	23	23
2005	26	26	26
2006	28	28	11
2007	30	13	0
2008	11	0	0
Total	367	339	309

Table 3.B.1 (cont.): Sample identification and description

Industry/Year	T+1	T+2	T+3
Energy	16	16	14
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Construction Materials	4	4	4
Paper & Forest Products	2	2	2
Metals & Mining	99	93	83
Capital Goods	7	6	6
Commercial Services & Supplies	18	17	13
Transportation	10	9	9
Automobiles & Components	0	0	0
Consumer Durables & Apparel	3	3	3
Consumer Services	17	17	16
Media	3	2	2
Retailing	19	17	16
Food & Drug Retailing	0	0	0
Food Beverage & Tobacco	21	21	21
Healthcare Equipment & Services	6	6	6
Pharmaceuticals & Biotechnology	8	6	4
Banks	15	11	9
Diversified Financials	58	54	53
Insurance	3	3	2
Real Estate excluding Investment Trusts	5	5	3
Real Estate Investment Trusts	14	13	12
Software & Services	4	4	4
Technology Hardware & Equipment	1	1	1
Telecommunications Services	22	17	15
Utilities	8	8	7
Total	367	339	309

Table 3.B.2: Descriptive statistics for sample

Panel A: Dependent variab	les					
	Mean	Median	SD	Minimum	Maximum	N
$MARKET_{it+1}$	-0.027	-0.042	0.371	-0.684	0.769	367
$MARKET_{it+2}$	-0.019	-0.032	0.408	-0.714	0.961	339
$MARKET_{it+3}$	-0.042	-0.067	0.375	-0.737	0.872	309

Panel B: Independent variables						
	Mean	Median	SD	Minimum	Maximum	N
IIA <sub>it</sub>	0.112	0.000	0.238	0.000	0.866	367
$GW_{it}$	0.232	0.023	0.318	0.000	0.964	367
$IFRS_{it}$	0.191	0.000	0.393	0.000	1.000	367
$IIA_{it} * IFRS_{it}$	0.021	0.000	0.113	0.000	0.866	367
$EP_{it-1}$	0.043	0.048	0.141	-0.316	0.425	367
$MTB_{it-1}$	1.668	1.303	1.442	-0.212	5.333	367
$LEV_{it-1}$	0.243	0.129	0.328	0.000	1.234	367
$RELSZ_{it-1}$	0.593	0.315	0.685	0.011	2.656	367
$MOOD_{it}$	0.087	0.000	0.283	0.000	1.000	367
$METHOD_{it}$	0.030	0.000	0.171	0.000	1.000	367
RELNS <sub>it</sub>	0.643	1.000	0.480	0.000	1.000	367

 $MARKET_{it+1}$ : Market adjusted return at the end of financial year one following the business combination  $MARKET_{it+2}$ Market adjusted return at the end of financial year two following the business combination : Market adjusted return at the end of financial year three following  $MARKET_{it+3}$ the business combination the amount of the takeover purchase price allocated to identifiable  $IIA_{it}$ intangible assets, deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the effective date of the business combination : the amount of the takeover purchase price allocated to goodwill,  $GW_{it}$ deflated by the acquiring firm's market value at the end of the financial year t immediately succeeding the effective date of the business combination IFRS<sub>it</sub> : one if the takeover effectiveness is in the post-IFRS period; zero

otherwise

 $EP_{it-1}$ ratio of the acquirer earnings (per share) to acquirer's share price

after tax before interest at the end of financial year t-1

 $MTB_{it-1}$ : ratio of the acquirer's market value to the acquirer's book value of

assets at the end of financial year t-1

: ratio of the acquirer's long-term debt to the acquirer's market value  $LEV_{it-1}$ 

at the of financial year t-1

 $RELSZ_{it-1}$ : ratio of the target's market value to the acquirer's market value at

the end of financial year t-1

 $MOOD_{it}$  : one if the bidder has hostile mood in place; zero otherwise.  $METHOD_{it}$  : one if the bidder has cash bids in place; zero otherwise

 $RELNS_{it}$ : if both bidder and target were in the same industry; zero otherwise

Table 3.B.3: Correlation matrix for sample firm years

Variable	A	В	С	D	Е	F	G	Н	I	J	K	L
A. $MARKET_{it+1}$	1.000	-0.070	0.006	-0.005	-0.032	-0.001	-0.049	-0.077	0.006	0.017	-0.049	0.083
B. $MARKET_{it+2}$	-0.049	1.000	-0.007	0.027	0.013	0.069	-0.063	0.116	0.145	0.057	-0.038	-0.102
C. $MARKET_{it+3}$	0.024	0.033	1.000	-0.068	0.098	-0.201	-0.047	0.014	0.015	-0.099	0.011	0.049
D. IIA <sub>it</sub>	0.037	-0.073	-0.126	1.000	-0.152	-0.108	0.090	-0.086	-0.018	0.000	0.036	-0.009
E. $GW_{it}$	-0.003	0.024	0.075	-0.016	1.000	0.086	0.162 0	.148	-0.103	0.020	-0.028	-0.172
F. $EP_{it-1}$	0.038	0.057	-0.082	-0.029	0.135	1.000	-0.072	0.278	-0.075	-0.009	0.062	-0.009
G. $MTB_{it-1}$	-0.060	-0.081	-0.063	0.063	0.079	-0.045	1.000	-0.367	-0.100	-0.010	0.026	-0.056
H. $LEV_{it-1}$	-0.051	0.091	-0.008	-0.038	0.216 0	.348	-0.249	1.000	0.020	-0.001	-0.041	-0.047
I. $RELSZ_{it-1}$	-0.058	0.076	-0.022	-0.076	-0.144	-0.099	-0.085	-0.141	1.000	-0.056	0.042	0.010
J. MOOD <sub>it</sub>	0.002	0.066	-0.107	0.045	0.045	0.033	0.027	0.051	-0.057	1.000	0.116	-0.112
K. $METHOD_{it}$	-0.058	-0.025	-0.014	0.017	-0.051	-0.002	0.016	-0.024	-0.007	0.116	1.000	0.031
L. RELNS <sub>it</sub>	0.084	-0.109	0.048	-0.023	-0.169	-0.039	-0.055	-0.042	0.088	-0.112	0.031	1.000

Pearson correlations above diagonal and Spearman Rank correlations below diagonal.

All correlations significant at the 1% level are bold.

All variables as previously defined.

Table 3.B.4: The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel A: Re	elation of identit	fiable intang	gible assets an	d goodwill with	firm perfor	mance				
	MAR	$KET_{it+1}$ (n=	-367)	MARI	$KET_{it+2}$ (n=	-339)	$MARKET_{it+3}$ (n=309)			
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-value	
	efficient		efficient			efficient		-		
Constant	-0.016	-0.600	0.549	-0.029	-0.970	0.334	-0.054	-1.930	0.055	*
$IIA_{it}$	-0.016	-0.190	0.847	0.049	0.530	0.596	-0.098	-1.010	0.313	
$GW_{it}$	-0.039	-0.630	0.529	0.023	0.300	0.762	0.118	1.610	0.108	
Adjusted R <sup>2</sup>	-0.004			-0.005			0.007			
F-stat	0.200		0.816	0.170		0.845	2.010		0.136	

Panel B: Re	elation of identif	fiable intang	gible assets an	d goodwill with	firm perfor	mance with c	ontrol for pre-ac	equisition p	erformance	
	$MARKET_{it+1}$ (n=367)			$MARKET_{it+2}$ (n=339)			$MARKET_{it+3}$ (n=309)			
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-value	
	efficient			efficient			efficient			
Constant	-0.016	-0.590	0.557	-0.039	-1.260	0.209	-0.027	-0.960	0.338	
$IIA_{it}$	-0.016	-0.190	0.849	0.059	0.640	0.525	-0.115	-1.210	0.227	
$GW_{it}$	-0.039	-0.630	0.530	0.013	0.170	0.867	0.148	2.060	0.041 **	
$EP_{it-1}$	0.002	0.010	0.991	0.213	1.300	0.194	-0.552	-3.890	0.000 ***	
Adjusted R <sup>2</sup>	-0.007			-0.003			0.050			
F-stat	0.140		0.939	0.680		0.567	6.440		0.000 ***	

Table 3.B.4 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance

Panel C: Relation of identifiable intangible assets and goodwill with firm performance with controls for pre-acquisition performance and characteristics of the acquisition.

	$MARK_{it+1}$ (n=367)			MAR	$KET_{it+2}$ (n=	=339)	MAR	$MARKET_{it+3}$ (n=309)			
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-value		
_	efficient			efficient			efficient				
Constant	-0.006	-0.120	0.908	-0.055	-0.890	0.374	-0.019	-0.310	0.758		
$IIA_{it}$	0.000	0.000	0.997	0.075	0.810	0.417	-0.097	-1.010	0.313		
$GW_{it}$	0.010	0.150	0.884	-0.002	-0.030	0.977	0.174	2.340	0.020 ***		
$EP_{it-1}$	0.077	0.530	0.594	0.177	1.050	0.295	-0.601	-4.070	0.000 ***		
$MTB_{it-1}$	-0.021	-1.420	0.155	-0.007	-0.430	0.666	-0.019	-1.010	0.312		
$LEV_{it-1}$	-0.131	-1.930	0.054 *	0.113	1.450	0.147	0.036	0.430	0.671		
$RELSZ_{it-1}$	0.003	0.120	0.905	0.085	2.720	0.007 ***	-0.005	-0.180	0.855		
$MOOD_{it}$	0.043	0.610	0.540	0.086	1.110	0.269	-0.136	-1.870	0.063 *		
$METHOD_{it}$	-0.131	-1.130	0.259	-0.127	-0.970	0.334	0.124	1.030	0.303		
$RELNS_{it}$	0.062	1.490	0.137	-0.076	-1.620	0.106	0.032	0.720	0.470		
Adjusted R <sup>2</sup>	-0.002			0.027			0.053				
F-stat	0.930		0.502	2.050		0.034 **	2.930		0.002 ***		

## Where:

 $Perf_{it} = \propto_0 + \propto_1 IIA_{it} + \propto_2 GW_{it} + \sum_{j=3}^9 \propto_j Control_{jit} + \varepsilon_{it}$  .....(1)

All variables as previously defined.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level \* : Denotes significance at the 10% level

Table 3.B.5: The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

	MARF	$XET_{it+1}$ (n	=367)	MARI	$KET_{it+2}$ (n=	=339)	MAR	$KET_{it+3}$ (n=	=309)	
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-va	lue
	efficient			efficient			efficient			
Constant	-0.017	-0.620	0.533	-0.027	-0.870	0.383	-0.058	-2.050	0.041	**
$IIA_{it}$	0.017	0.190	0.853	0.046	0.460	0.645	-0.086	-0.890	0.376	
$GW_{it}$	-0.038	-0.580	0.562	0.030	0.380	0.702	0.135	1.820	0.070	*
$IFRS_{it}$	0.004	0.060	0.949	-0.030	-0.390	0.697	0.076	0.620	0.537	
$IIA_{it}$	-0.172	-0.820	0.412	0.030	0.110	0.910	-3.036	-1.880	0.061	*
* IFRS <sub>it</sub>										
Adjusted R <sup>2</sup>	-0.008			-0.011			0.012			
F-stat	0.300		0.881	0.120		0.974	1.900		0.110	

Table 3.B.5 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel B: Relat	tion of identifia	able intang	gible assets an	d goodwill with	firm perfor	mance with c	ontrol for pre-ac	equisition p	erforma	nce
	MARI	$KET_{it+1}$ (n	=367)	$MARKET_{it+2}$ (n=339)			$MARKET_{it+3}$ (n=309)			
	Co-	t-stat	p-value	Co-	t-stat	p-value	Co-	t-stat	p-va	ılue
	efficient			efficient			efficient			
Constant	-0.017	-0.590	0.553	-0.037	-1.170	0.244	-0.031	-1.070	0.283	
$IIA_{it}$	0.017	0.180	0.857	0.054	0.540	0.590	-0.105	-1.100	0.273	
$GW_{it}$	-0.038	-0.570	0.568	0.018	0.230	0.817	0.165	2.250	0.025	**
$EP_{it-1}$	-0.007	-0.050	0.959	0.211	1.280	0.203	-0.543	-3.830	0.000	***
$IFRS_{it}$	0.003	0.060	0.954	-0.024	-0.310	0.754	0.054	0.450	0.657	
$IIA_{it}$	-0.172	-0.820	0.412	0.043	0.160	0.872	-2.775	-1.750	0.081	*
* IFRS <sub>it</sub>										
Adjusted R <sup>2</sup>	-0.011			-0.009			0.054			
F-stat	0.240		0.947	0.420		0.832	4.520		0.001	***

Table 3.B.5 (cont.): The relation between amounts recognised as identifiable intangible assets and goodwill and firm performance with controls for transition to IFRS

Panel C: Relation of identifiable intangible assets and goodwill with firm performance with controls for pre-acquisition performance and

characteristics of the acquisition.

	MAR	$\overline{KET_{it+1}}$ (r	n=367)	MARI	$KET_{it+2}$ (n=	339)	1	$MARKET_{it+3}$ (n=309)			
	Co-	t-stat	p-value	Co-efficient	t-stat	p-valu	e Co-efficie	nt t-stat	p-va	alue	
	efficient										
Constant	-0.011	-0.190	0.849	-0.054	-0.860	0.392	-0.20	-0.330	0.738		
$IIA_{it}$	0.031	0.340	0.736	0.062	0.620	0.537	-0.08	-0.910	0.362		
$GW_{it}$	0.006	0.090	0.929	-0.001	-0.010	0.992	0.19	2.530	0.012	***	
$EP_{it-1}$	0.069	0.470	0.640	0.182	1.070	0.286	-0.59	-4.010	0.000	***	
$IFRS_{it}$	0.014	0.240	0.812	-0.010	-0.130	0.899	0.03	0.280	0.779		
$IIA_{it} * IFRS_{it}$	-0.171	-0.810	0.418	0.104	0.390	0.697	-2.75	-1.730	0.084	*	
$MTB_{it-1}$	-0.021	-1.390	0.165	-0.008	-0.440	0.658	-0.01	9 -1.010	0.312		
$LEV_{it-1}$	-0.127	-1.860	0.063 *	0.111	1.410	0.159	0.03	0.400	0.691		
$RELSZ_{it-1}$	0.002	0.060	0.955	0.086	2.740	0.007 *	-0.00	-0.220	0.829		
$MOOD_{it}$	0.046	0.650	0.515	0.085	1.090	0.276	-0.13	-1.900	0.058	**	
$METHOD_{it}$	-0.124	-1.070	0.286	-0.133	-1.000	0.320	0.12	25 1.000	0.317		
$RELNS_{it}$	0.065	1.550	0.123	-0.077	-1.620	0.106 *	0.03	0.720	0.470		
Adjusted R <sup>2</sup>	-0.006			0.022			0.05	58			
F-stat	0.820		0.625	1.680		0.076 *	2.71	.0	0.002	***	

Where:

$$Perf_{it} = \beta_0 + \beta_1 IIA_{it} + \beta_2 GW_{it} + \beta_3 IFRS_{it} + \beta_4 IIA_{it}.IFRS_{it} + \sum_{j=6}^{12} \beta_j Control_{jit} + \varepsilon_{it} \dots (2)$$

All variables as previously defined.

\*\*\* : Denotes significance at the 1% level \*\* : Denotes significance at the 5% level

## Appendix 3.C THE Business Acquired FOOTNOTE From the Southcorp Limited's immediate post-acquisition Statement of Cash **Flows**

VANCIAL STATEMENTS			en en	1 4 1	
the year ended 30 June 2000	A		Secretaria de la constanta de		
Appendix 3.C	Southcorp	1 im 1	ted (SR	00	
		Limit	ied (or	17	
OTES TO THE FINANCIAL STAT	TEMENTS	r.		0 1	
	2	ooo ti	nancial	Report	
		Cons	olidated	Southcorp	Limited
		2000 \$'000	1999 \$'000	Southcorp 2000 \$'000	1999 \$'000
NOTES TO THE STATEMENT OF CASH FLO	. ,				
(c) Acquisition of controlled entities and business					
Fair value of assets and liabilities acquired at acqui	isition date:	7.004	584		
Cash		1,094		0-0	-
Receivables		3,521	11,369	_	_
Inventories		5,475	15,512	- ·	
Other current assets		68	439		-
Property, plant and equipment		24,844	35,906	00	-
Intangibles		297	10,700	_	
Other non-current assets		-	3,160	_	_
Accounts payable		(2,315)	(11,304)	-	===
Bank overdraft		(102)	(412)	0-0	-
Borrowings		(6,453)	(11,327)	-	_
Provisions		(3,378)	(9,607)		
		23,051	45,020	-	-
Goodwill on acquisition		20,562	20,879		_
Total consideration		43,613	65,899	-	_
Investment converted to a controlled entity		(1,082)		-	_
Net cash balances acquired		(992)	(172)	_	_
Total flow of cash		41,539	65,727	. — .	_
(d) Disposal of businesses					
Carrying amount of assets and liabilities at date of	disposal:				
Cash		2	28	11-11	
Receivables		13	605	_	_
Inventories		12,694	64,054	-	
Other current assets		19	673	-	-
Property, plant and equipment		13,790	32,013	-	_
Intangibles		247	30,000	_	_
Other non-current assets		376	7,711	_	_
Accounts payable		(20)	(564)	-	_
Provisions		(1,057)	(24,693)	-	_
Net assets disposed		26,064	109,827		
Profit/(loss) on disposal		(4,927)	2,111	0.000	_
Total consideration			111,938	<del>-</del>	
		21,137		-	-
Deferred consideration		(8,721)	(7,127)	_	-
Consideration repayable		-	7,905	-	_
Cash balances disposed		(2)	(28)		
Total flow of cash		12,414	112,688	_	_

Order the Southcorp Limited Dividend Reinvestment Plan, snarehousers may elect to have dividends reinvested in additional shares. During the current period, a total of \$20,818,000 (1999: \$36,147,000) in dividends was reinvested, representing 3,546,499 (1999: 6,648,908) ordinary fully paid shares.

During the current period 850,000 (1999:150,000) ordinary fully paid shares were issued under the Southcorp Executive Share and Option Plan for which loans of \$4,393,000 (1999: \$731,000) were made by the Company.