

Curtin University of Technology

**School of Economics and Finance
Department of Banking and Finance**

**Accounting for Goodwill in
Australian Business Combinations:
Is there Value to Choose?**

Kieran E. James

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Doctor of Philosophy
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Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

Signature:

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TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1	The research questions	1
1.2	Why is the question important?	5
1.3	Research findings	11
1.4	Outline of the remaining chapters	14

CHAPTER 2: PRIOR RESEARCH

2.1	Introduction	15
2.2	Accounting Policy Choice Literature	16
2.3	Evidence from Stock Price Studies	24
2.4	Accounting Policy Choice Studies and Acquired Goodwill	42
2.5	Summary	56

CHAPTER 3: HYPOTHESES

3.1	Introduction	57
3.2	The mean level of bid premiums paid pre- and post-AASB1013	57
3.3	The mean level of acquired goodwill pre- and post-AASB1013	64
3.4	The association between acquired goodwill and bid premium pre- and post AASB1013	66
3.5	Summary	68

CHAPTER 4: RESEARCH METHODS

4.1	Introduction	70
4.2	Sample Selection Criteria	70
4.3	The Regression Model	78
4.4	Variable measurement	78
4.5	Control Variables	88
4.6	Descriptive Statistics	107
4.7	Summary	115

CHAPTER 5: RESULTS

5.1	Introduction	117
5.2	Univariate Tests	117
5.3	Multivariate Tests	123
5.4	Summary	141

CHAPTER 6: CONCLUSIONS	
6.1 Conclusions	143
6.2 Limitations	146
6.3 Future Research	148
APPENDIX A: ACCOUNTING STANDARDS TIMELINE	153
APPENDIX B: GOODWILL ACCOUNTING TREATMENTS AROUND THE WORLD	158
REFERENCES	187

LIST OF TABLES

Table 4.1	Distribution of sample takeovers by GICS industry classification (Panel A) and by Year of takeover announcement (Panel B), n=261	76
Table 4.2	Various measures of the dependent variable (bid premium)	81
Table 4.3	Measurement and notations of independent variables	87
Table 4.4	Descriptive statistics for the final sample of takeovers (n=261), 1981-2000	108
Table 5.1	Correlation matrix of test variables	118
Table 5.2	Tests of difference in means and medians of firm-specific characteristics between the pre-1987 (n=127) and post-1987 (n=134) period, 1980-2000.	122
Table 5.3	Multiple OLS regression results for the full sample (Dependent variable = PREMIUM0)	124
Table 5.4	Multiple OLS regression results for the full sample (Dependent variable = PREMIUM1)	125
Table 5.5	Multiple OLS regression results for the full sample (Dependent variable = PREMIUM2)	126
Table 5.6	Multiple OLS regression results for the pre-AASB1013 sample (Dependent variable = PREMIUM0)	134
Table 5.7	Multiple OLS regression results for the pre-AASB1013 sample (Dependent variable = PREMIUM1)	135
Table 5.8	Multiple OLS regression results for the pre-AASB1013 sample (Dependent variable = PREMIUM2)	136
Table 5.9	Multiple OLS regression results for the post-AASB1013 sample (Dependent variable = PREMIUM0)	137
Table 5.10	Multiple OLS regression results for the post-AASB1013 sample (Dependent variable = PREMIUM1)	138
Table 5.11	Multiple OLS regression results for the post-AASB1013 sample (Dependent variable = PREMIUM2)	139

Abstract

This research explores the empirical association between takeover bid premium and acquired goodwill, and tests whether the empirical association changes after the passage of approved accounting standard AASB1013: *Accounting for Goodwill*. AASB1013 mandates capitalization and amortization of acquired goodwill to the profit and loss account, over a maximum time period of 20 years. Using real options and contracting cost frameworks, this study argues that reducing the variety of accounting policy options available to bidder management after an acquisition results in a systematic loss in firm value. An empirical model developed by Robinson and Shane (1990) and Choi and Lee (1991) is used to measure the average effect on bid premiums of the mandatory change in accounting rule, after controlling for a range of confounding variables including mode of payment, managerial share ownership, and bidder prior share ownership. Based on a final sample consisting of 127 pre-AASB1013 bids and 134 post-AASB1013 bids, the results show that the goodwill accounting rule contained in AASB1013 significantly reduces both the mean and median level of bid premium and the strength of the association between acquired goodwill and bid premium.

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CHAPTER 1

INTRODUCTION

1.1 The Research Questions

This study looks at takeover bid premium before and after the issuance of Approved Accounting Standard AASB1013: *Accounting for Goodwill* in Australia, which applies first to financial years ending on or after 19 June 1988.¹ The standard requires firms to capitalize and systematically amortize acquired goodwill to the consolidated profit and loss account over a maximum time period of 20 years.^{2, 3} Prior to the standard, firms were free to choose their own preferred accounting policy for acquired goodwill.⁴ For accounting purposes, purchased (acquired) goodwill is typically defined as the fair value of the purchase consideration exchanged in an acquisition minus the fair value of the identifiable net assets (equity) of the

¹ Australia decided to follow the International Accounting Standards Board (IASB) set of accounting standards with effect from 1 January 2005. As a result, AASB1013 no longer exists. It has been replaced by AASB3: *Business Combinations*, which is the Australian version of IFRS3: *Business Combinations* (Leo, Hoggett, Sweeting and Radford, 2005, p. 12). Systematic amortization of the capitalized acquired goodwill balance is not required by AASB3 (Leo et al., 2005, p. 262).

² The standard was amended to require the use of the straight-line method of amortization only in 1996 and for following years. The timeline, which traces developments in accounting regulation on acquired goodwill in Australia between 1977 and 1996, appears as Appendix A to this dissertation. Appendix B lists the major primary sources of accounting regulation as well as the accounting rules for acquired goodwill contained within the national standards of some key world economies and some emerging economies.

³ Lump-sum write-offs are allowed where the goodwill is no longer supported by future economic benefits. Some recent examples include write-offs for the 2001/02 year of A\$4 million by Garrisons Accounting Group and A\$104.5 million by listed accounting firm Stockford Limited (Stensholt, 2002). The debit part of the journal entry is to profit and loss and not to reserves.

⁴ *Amortization* is a technical accounting term referring to the systematic expensing of a fixed proportion of the historical cost or re-valued amount of a purchased intangible asset to the profit and loss account on an annual basis. The period of amortization is the estimated useful or legal life of the intangible asset, or some shorter period required by an accounting standard. The amortization concept is equivalent to the concept of depreciation for tangible long-lived assets. Amortization is claimed by accountants to be an expression of both the time-honoured principle of *matching* (where expenses incurred are matched against the revenues generated as a result of the incurrence of those expenditures) and *conservatism* (where it is held to be a prudent practice to anticipate all losses but to defer all gains).

target company acquired (Accounting Standards Review Board approved accounting standard AASB1013: *Accounting for Goodwill*, paragraph 5.7).⁵

The fundamental research question addressed in this study is: Is the option to maintain accounting policy discretion over the reported acquired goodwill accounting numbers an important one, from the viewpoint of company managers and the capital market?

The primary presumption in this study is that artificial restrictions imposed upon accounting policy discretions, in the acquired goodwill area, remove an important real option (signalling mechanism) from the hands of firm managers. As a result, it moves firms away from an efficient signalling outcome (Holthausen and Leftwich, 1983; Holthausen, 1990; Bartov and Bodnar, 1996; Coombes, Otto and Stokes, 1997; Boone and Raman, 2001; Tan, 2001). Firms can no longer use accounting policy discretions in the acquired goodwill area to cost-effectively communicate to the capital market inside information about expected future net cash inflows arising from investments in intangible assets.

In particular, it is argued that the real option to maintain accounting policy discretion for acquired goodwill is an important one because information asymmetries between managers and uninformed investors are likely to be most pronounced for the various classes of intangible assets (as opposed to tangible assets). Forced systematic amortization, over a maximum period of 20 years, will lead to the reporting of financial statement numbers (on

⁵ Academic studies refer to the resultant debit balance that emerges in the consolidated accounts when a bidder pays a price above the fair value of the identifiable net assets acquired as ‘acquired goodwill’ whereas the professional literature, accounting textbooks, and the accounting standards refer to the concept as ‘purchased goodwill’. This study uses the term ‘acquired goodwill’.

both the consolidated balance sheet and consolidated income statement) that do not reflect the present value of net cash inflows expected from investments in intangible assets (balance sheet) or the actual decline in value of those expected cash flows (income statement).

Consequently, the acquired goodwill numbers are predicted to be less meaningful or useful as potential signals of expected future net cash inflows in the post-AASB1013 period vis-à-vis the pre-AASB1013 period. Because the acquired goodwill numbers are less relevant or meaningful to users in the post-AASB1013 period, they also lose their significance and importance for managers. As a result, the strength of the association between acquired goodwill and bid premium (which is a real economic variable which is directly controllable by managers) will be correspondingly reduced.⁶

A large section of the academic finance literature (Lee, Mucklow and Ready, 1993; Bartov and Bodnar, 1996; Boone and Raman, 2001) confirms that removing important accounting discretions in the areas of accounting for intangible assets reduces the usefulness of the reported financial statement numbers and imposes significant social and economic costs upon

⁶ In terms of goodwill accounting policies actually adopted by Australian companies prior to AASB1013, Gibson and Francis (1975) survey the reporting practices for goodwill for the year 1974 by public companies listed on Melbourne Stock Exchange (MSE). Two hundred and seventy three companies responded to the survey and 88 of these companies had made an accounting policy choice concerning acquired goodwill in their most recent consolidated financial statements. Gibson and Francis (1975) report a wide diversity of accounting practice in this unregulated period, thus supporting the argument that the option to choose goodwill accounting policy is a valuable one for acquiring firms. The most common accounting practices observed by Gibson and Francis (1975) are immediate write-off against consolidated reserves (33 out of 88 or 37.5%), immediate write-off against consolidated profits, (16 out of 88 or 18.2%), periodic write-offs against consolidated profits, i.e., capitalization with systematic amortization (14 out of 88 or 15.9%), periodic write-offs against consolidated reserves, (8 out of 88 or 9.1%), write-offs at the directors' discretion against consolidated reserves, and write-offs at the directors' discretion against consolidated profits. Thus, the accounting method later prescribed by AASB1013 was only adopted of their own volition by 16% of MSE listed public companies in 1974.

market participants.⁷ These social and economic costs include an increased level of *information asymmetry* (information differences) between informed (company insiders) and uninformed investors (the capital market). This, in turn, gives rise to reduced market liquidity, as evidenced by a higher bid-ask spread and lower quoted depth. A higher cost of equity capital is thus required to compensate investors for the lack of liquidity. An additional negative economic consequence of unresolved information asymmetry in the capital market is poorer long-run average share price performance for the affected firms (Glosten and Milgrom, 1985; Lee et al., 1993; Bartov and Bodnar, 1996; Boone and Raman, 2001).

This study chooses to examine firms that have been the subject of a successful takeover bid for two reasons. First, the takeover process is one event in the market where accurate and objective assessments of firms' market value are available. This is due to the competitive and transparent bidding process, which ensures that the bid offer price, and formal revisions to that price, reflect the bidder's best estimate of the present value of incremental future net cash inflows associated with both the target firm as a stand-alone entity and the merging of the target firm's operations with the bidding firm (synergistic benefits).⁸ Second, changes in firms' market value over a relatively short period are directly accessible.

⁷ One such option which has been removed in the US relates to the capitalization of research and development (R&D) expenses. This option has been specifically disallowed since the mid 1970s as a result of the provisions of Statement of Financial Accounting Standards (SFAS) No. 2 (Bartov and Bodnar, 1996; Boone and Raman, 2001). By contrast, countries such as Canada, the UK, and Australia allow for a selective capitalization approach for R&D expenditures.

⁸ The present value of the combined firm is defined as the sum of the present values of the target firm, the bidder firm, and potential synergies arising from the acquisition. Rates of return to the target firm around the bid announcement date (bid premium) represent an estimate of the present value of the bid to the bidder firm, and the premium paid to gain control.

AASB1013 does not permit ‘internally generated goodwill’ to be capitalized although it may represent potentially valuable economic resources available to the firm, e.g., customer loyalty, brand values, and distribution networks. The reason given is that internally generated goodwill does not arise from an independently verifiable exchange transaction. ‘Identifiable intangible assets’ such as patents, brand names, and computer software development costs are specifically excluded from the ambit of AASB1013, but may be subject to regulation under other Australian accounting standards or exposure drafts.⁹ As a result, this study focuses only on the accounting treatment, and the signalling properties (or lack thereof), of the acquired goodwill numbers that appear on the post-consolidation balance sheet and income statement.

1.2 Why is the Question Important?

Several leading Australian industrial companies argued strongly throughout the 1980s and early 1990s that AASB1013 is a harsh accounting standard compared to that applicable in other leading world capital markets (Miller, 1995; Brown, 1995; Clinch, 1995; Whittred, Zimmer and Taylor, 2000). In particular, a common concern was voiced at the time that mandatory amortization charges over a maximum 20 year time period arbitrarily reduce the reported consolidated profits of the combined firm in the post-acquisition years. In addition

⁹ There was no approved accounting standard in place in Australia over the period of this study (1981 to 2000) that covered the area of identifiable intangible assets. A non-mandatory Exposure Draft ED 49: *Accounting for Identifiable Intangible Assets* was issued in 1989 but withdrawn in 1992. Australian companies adopt a wide variety of accounting practices for identifiable intangible assets, including the capitalization and selective revaluation of internally generated mastheads, television licences, brand names, investment agreements, and customer lists (Wines and Ferguson, 1993; Buffini, 2003a). As an example, three major television networks have capitalized television licences on their books at a total combined valuation of A\$4 billion in 2000 (Buffini, 2003a). This divergence of acceptable practice was strongly criticized by Sir David Tweedie, Head of the International Accounting Standards Board (IASB) on his visit to Australia in 2003 (Andrews, 2003). When Australian companies are forced to comply with the full set of IASB standards as from 1 January 2005, all identifiable intangible assets without an active market will need to be taken from the books, and all upwards revaluations of these assets retrospectively reversed (Haswell and McKinnon, 2002; Andrews, 2003).

to this, the requirements of AASB1013 mean that the book value of purchased (acquired) goodwill on the consolidated balance sheet is also correspondingly reduced by the sum of the accumulated amortization charges.

Systematic goodwill amortization charges can be very large when expressed as a proportion of earnings before interest, tax, depreciation, and amortization (EBITDA) for those highly acquisitive companies, which may lead to difficulties in raising debt and equity capital (Whittred et al., 2000). Reported goodwill numbers on the consolidated balance sheet are correspondingly reduced by the sum of the accumulated amortization charges. At the same time, under AASB1013 in Australia, it is not acceptable to revalue upwards the book goodwill asset to take into account any upward increment in the far market value of the acquired goodwill.

The reporting requirements of AASB1013 make it difficult for Australian firms to compete effectively in the international acquisitions market. For example, UK firms maintain an accounting option (over the time period from 1984 to 1997) to write acquired goodwill directly off against their equity reserves in the acquisition year. Prior to 2001 (under APB Opinion No. 17), US firms are required to amortize acquired goodwill to the profit and loss account over a maximum period of 40 years (not 20 years).

The highly controversial Inverted-Sum-of-Years-Digits (ISOYD) amortization method was adopted by some leading Australian companies in the early 1990s.¹⁰ Compared to the more

¹⁰ Some of these companies include Pacific Dunlop Limited, Amcor Limited, Brambles Industries Limited, and Southcorp Holdings Limited. The annual reports affected cover the years from 1989 to 1994. A more detailed

conventional straight-line method, this method produces a smaller amortization charge in the immediate post-acquisition years and a correspondingly larger charge towards the end of the maximum 20 year amortization period (Miller, 1995; Brown, 1995; Clinch, 1995; Whittred et al., 2000). This move in the amortization method adopted was seen by financial commentators as evidence that Australian companies perceive that the straight-line method creates expense charges to the profit and loss account, and declines in the book value of the goodwill asset on the balance sheet, which, on an annual basis are too large and too arbitrary. Further to this, the use of the straight-line method must impose real economic cost upon the affected firms or else it is hard to understand why the corporate world's opposition to the straight-line amortization method was so vociferous and persistent.

A recent example of the impact on the reported acquired goodwill accounting numbers of the rules contained in AASB1013 is provided by Australian harbour tugs operator Adsteam Marine Limited and its acquisition of the Howard Smith tugs business in May 2001 (Rennie, 2002a). Adsteam reported a lift in profit (before goodwill amortization) from A\$11.5 million to A\$25.9 million in the six month period ending 31 December 2001.¹¹ On the face of it, this suggests that the acquisition contributed significantly to the company's ability to generate positive net operating cash flows. However, the net (positive) impact of the acquisition on the reported accounting numbers is hidden because the A\$14.4 million increase in profit (before

discussion is found in Brown (1995), Clinch (1995), Miller (1995), and Whittred et al. (2000, chapter 8). Appendix A to this study traces some of the major events in the ISOYD debate, a debate which ultimately led to a re-issuance of AASB1013 in 1996. The revised version of AASB1013 permits only the straight-line method of goodwill amortization.

¹¹ In an Adsteam media announcement made in March 2002, chief executive David Ryan chose to cite a pre-goodwill amortization profit figure relating to the half-year ending 31 December 2001 (Rennie, 2002a).

goodwill amortization) is nearly completely offset by the goodwill amortization charge of A\$9.6 million that occurs for the half year (Rennie, 2002a).

As another example, analysts predicted a net profit (before goodwill amortization) of between A\$3.5 million and A\$3.8 million for the Australian ophthalmic technology company Ellex Medical Lasers Limited for the financial year ending 30 June 2002, the first financial year which incorporated results arising from its A\$24 million reverse takeover of jade miner Gemstone Corporation of Australia Limited (Milne, 2002). The reported net profit for the year is reduced, however, by between 26% and 28% due to the presence of an A\$1 million goodwill amortization charge arising as a result of the Gemstone acquisition (Milne, 2002).¹²

Proponents of efficient capital markets argue that accounting policy regulation in the acquired goodwill area has no direct cash flow consequences because the goodwill asset was already paid for in full at the acquisition date through the bid premium. Since finance theory states that the share price is the present value of expected future net cash inflows, and goodwill amortisation charges are not a cash flow, goodwill accounting regulation should not affect the market value of the bidding firm, or the bid premium paid under this viewpoint (Copeland and Weston, 1988; Lonergan, 1995; Miller, 1995).

¹² As a further example, Sonic Healthcare Limited reports a full-year 2001/02 profit of A\$83.1 million (up 47% on the preceding year) before amortization and an annual amortization charge for that year of A\$49.4 million (up 63%) (Rennie, 2002b). In this financial year, Sonic acquired five companies and eight businesses, living up to its reputation of being highly acquisitive (Sonic Healthcare Limited, 2002). Total consideration paid in the 2002 financial year is A\$263,204,000, the fair value of net assets acquired is \$55,100,000 and total goodwill relating to the acquisitions is \$318,304,000 (compared to \$322,870,000 in the previous year). As at 30 June 2002, total goodwill is \$1,088,946,000 (gross) and \$986,445,000 (net of accumulated amortization), which for gross goodwill is 67% of total book assets of \$1,598,709,000 and 120% of total book equity of \$837,465,000 (Sonic Healthcare Limited, 2002). Sonic's accounting policy for acquired goodwill in the 2002 financial year is stated to be straight line amortization over 20 years across all acquisitions.

However, the evidence points to the contrary. In the US, Robinson and Shane (1990) document a significant positive association between the choice to structure an acquisition to qualify for pooling of interests accounting treatment (which avoids consolidation of the subsidiary and any recognition of the goodwill asset) and the bid premium. Using a simultaneous equation system, Ayers, Lefanowicz and Robinson (2002) find that both the acquisition accounting policy choice (pooling or purchase) and the bid premium are endogenously determined. First, the bid premium affects the accounting choice because higher bid premiums create a higher market-to-book ratio. This in turn increases the likelihood that the acquisition will be structured as a pooling since accounting-related benefits of pooling will be maximized in these cases (Gagnon, 1967; Copeland and Wodjak, 1969; Anderson and Louderback, 1975; Crawford, 1987).¹³ Second, the accounting choice also impacts upon the bid premium because in the U.S. (prior to 2001), target management support is needed before the acquisition can be structured as a pooling, and a higher bid premium must be paid in order to gain the support of the target management (Nathan, 1988; Robinson and Shane, 1990; Ayres et al., 2002). Thus, the bid premium affects the acquisition accounting choice, which in turn affects the bid premium. That is, they are both jointly determined.

No Australian study has attempted to address the question of whether the artificial restriction on accounting discretion in the acquired goodwill area (the removal of a real option) has

¹³ The accounting-related benefits of pooling include the increase in the present value of management compensation, where management compensation under bonus plans is calculated as a function of accounting profit (Crawford, 1987; Lee and Choi, 1992; Aboody, Kasznik and Williams, 2000; Weber, 2004) and the creation of ‘instant earnings’ caused by the fact that under the pooling method, the target’s earnings are included in group earnings from the start of the acquisition year, rather than only from the acquisition date (Robinson and Shane, 1990; Ayers et al., 2002). Accounting-related costs of pooling include the maintenance of target leverage, when it could have been decreased under the purchase method, as a result of the write-up of target assets to fair values (Robinson and Shane, 1990).

significantly reduced the strength of the association between acquired goodwill and bid premium. Given that pooling accounting has never been a valid accounting option in Australia, a higher bid premium will not need to be paid specifically to gain target management support so as to qualify the acquisition for pooling (which generates certain accounting-related benefits for the acquirer). However, to the extent that there is a loss of accounting-related benefits associated with artificial restriction on accounting discretion and that target firm shareholders receive most of the incremental value gains associated with merger transactions (Jensen and Ruback, 1983; Bradley, Desai and Kim, 1988; Robinson and Shane, 1990), bid premiums might be reduced in order to reflect the loss of accounting-related benefits.

This study's research question is also important in the light of recent debates in the US, which has led to the eventual banning of the pooling-of-interests acquisition accounting method in that country (<http://www.techlawjournal.com/home/newsbriefs/2001/07f.asp>, accessed 12 October 2005). In June 2001, the Financial Accounting Standards Board (FASB) issued SFAS No. 141: *Business Combinations* and SFAS No. 142: *Goodwill and Other Intangible Assets* (effective for all business combinations completed after 30 June 2001). These accounting standards confirm that the new approach to business combinations in the US follows the events-triggered impairment test model.¹⁴ Pooling accounting is now no longer an option. In addition, when the purchase method of accounting is used to account for the

¹⁴ The International Accounting Standards Board (IASB), in its new accounting standard IFRS3: *Business Combinations*, which is effective for all business combinations entered into on or after 31 March 2004, has elected to follow the US model by introducing an annual events-triggered impairment test for acquired goodwill balances (www.iasplus.com, accessed 29 June 2004).

acquisition, systematic amortization of acquired goodwill balances is now no longer required or permitted.^{15, 16}

The issue of the appropriateness of alternative allowable goodwill accounting treatments, which yield varying degrees of accounting-related benefits, will continue to be the subject of intensive debate in the major world capital markets. The research findings of this study will shed some light on the validity of the various arguments presented.

1.3 Research Findings

This study is based on a final sample of 261 acquisitions, spanning the period from 1 January 1981 to 31 December 2000. The sample selection criteria require that the target be an Australian listed company so that sufficient share price and financial statement data can be obtained for the analysis. The acquiring firm is permitted to be either listed or unlisted and an Australian or a foreign company as long as the (known) mandated accounting treatment of acquired goodwill in the acquirer's home country conforms to what the treatment would have been had the bid been made by an Australian bidder as at the same date.

The main findings of this study are as follows. Univariate tests show that, holding all else constant, mean and median bid premiums are significantly lower in the post-AASB1013 period than in the pre-AASB1013 period. By contrast, mean and median acquired goodwill

¹⁵ As an example of the potential size of the goodwill amortization charges that some US firms may now avoid, America Online would have been required, under the rules of the former standard APB Opinion No. 17, to report a charge of US\$2 billion of amortization per year over 25 years as a result of its merger with Time Warner (Kothari, 2001, p. 178).

¹⁶ See <http://www.techlawjournal.com/home/newsbriefs/2001/07f.asp>, accessed 12 October 2005.

are higher in the post-AASB1013 period than in the pre-AASB1013 period, but the difference is not significant.

Cross-sectional multiple regressions show a negative and significant association between acquired goodwill and bid premium, across nearly all versions of the regression equation run. This result is consistent with the removal of inefficient management and the low replacement cost of assets hypotheses proposed by Walkling and Edmister (1985), Nathan (1988) and Ayres et al. (2002, pp. 18-19). There is a positive and significant coefficient on the interaction of the time period dummy (pre- or post-AASB1013) and acquired goodwill. The accounting standard AASB1013 appears to have significantly reduced the strength of the association between acquired goodwill and bid premium.

The interaction of acquired goodwill with bidders' prior proportional ownership (toehold) has a significant negative association with the bid premium. This is consistent with there being both a reduced level of information asymmetry and competition in the Australian market for corporate control in those cases where the toehold is high. This in turn reduces the willingness and need for acquiring firm managers to signal (and pay for) acquired goodwill in those circumstances.

Toehold itself is significantly negatively associated with the bid premium, consistent with a lack of competition in the market for corporate control operating at a high toehold level. There is a less need for successful bidders with a high toehold to pay a higher bid premium in order to buy out recalcitrant minority shareholders (Walkling and Edmister, 1985; Robinson

and Shane, 1990; Bugeja and Walter, 1995; Ayres et al., 2002). In addition, when toehold is high, the pre-acquisition target share price may have already factored in the possibility of a future bid by an extant substantial shareholder (the Australian Stock Exchange Listing Rules require that the identities and shareholdings of substantial shareholders be disclosed). This means that the eventual percentage premium paid will be lower, due to the higher base amount.

The results also indicate that mode of payment, managerial share ownership, market value of target common equity (firm size), balance-sheet recognized carry-forward tax losses, target prior stock return, three secular trend dummies (representing the 1988-1990, 1991-1997, and 1998-2000 periods), and a diversified financials industrial classification dummy do not appear to be significantly associated with the bid premium. These findings suggest that the reported results for the key variables of interest are not due to correlated omitted variables (Watts and Zimmerman, 1990; Clinch, 1995; Wong and Wong, 2001; Ayres et al., 2002) which reflect either changes in the economic or institutional environment during the sample period, changes in the relative bargaining power of targets versus bidders (Comment and Schwert, 1995; Schwert, 2000) or omitted size and industry effects.

It is worth noting that the time period dummy variable, minus its interaction with acquired goodwill, is not significantly associated with the bid premium. This indicates that other economic events, unrelated to the goodwill accounting standard but which occurred at around the same time (such as the October 1987 worldwide stock market crash), did not result in any significant structural shift in the mean and median levels of the bid premium paid by the

successful acquirer. The overall explanatory power of the model is represented by an adjusted R-square of 15.50%, which is in the same immediate region as the 14.6% reported in Robinson and Shane (1990), and the 20% reported in Ayers et al. (2002).

Overall, it can be concluded that the research findings support the assertion that the restrictions on accounting choice imposed by AASB1013 take away a valuable real option and signalling mechanism from acquiring firm managers. The reported goodwill financial statement numbers are less useful and meaningful to the capital market and to managers in the post-AASB1013 period, and as a result the strength of the association between acquired goodwill and bid premium significantly declines (as predicted)

1.4 Outline of the Remaining Chapters

The remaining chapters are organized as follows: Chapter 2 outlines the relevant literature, while developing fully the ideas in past research that are most important to the present study. Chapter 3 sets out the hypotheses, building on Chapter 2. Research design issues are explored in Chapter 4. Details of the final sample and the measurement of variables are also discussed in this chapter. The results are presented in Chapter 5. Chapter 6 sets out the study's conclusions, limitations, and some suggestions for further research.

CHAPTER 2

PRIOR RESEARCH

2.1 Introduction

This chapter discusses previous work on accounting for acquired goodwill, with a view to the development of the research hypotheses in Chapter 3. Most previous research on the relationship between acquired goodwill and bid premium has been conducted in the US. These studies have attempted to document either the strength of the association between bid premium and the choice of pooling or purchase as the acquisition accounting method (Robinson and Shane, 1990; Ayers et al., 2002) or how bid premiums paid for US targets vary systematically with the mandated goodwill accounting treatment in the acquirer's country of origin (Choi and Lee, 1991; Lee and Choi, 1992; Dunne and Ndubizu, 1995; Cheng, Dunne and Nathan, 1997).

To date, there has been no published Australian study on the association between acquired goodwill and bid premium. In addition, no Australian study has attempted to document if and how the strength of the association between acquired goodwill and bid premium changes as a result of the passage of approved accounting standard AASB1013: *Accounting for Goodwill* (1988).

Previous Australian and New Zealand studies have either been descriptions of extant accounting practice in the area of accounting for goodwill and/or identifiable intangible assets

(Gibson and Francis, 1975; Carnegie and Gibson, 1987, 1991; Wines and Ferguson, 1993) or have attempted to explain the accounting policy choice in these areas as a function of variables specified by costly contracting theory (Daley, 1985; Pavletich, 1989; Anderson and Zimmer, 1992; Coombes, Otto and Stokes, 1997; Dunstan, 2000; Wong and Wong, 2001; Chan and Loftus, 2003).

The latter group of studies referred to above is indirectly relevant to this thesis as they provide theoretical motivation and indirect empirical support for the hypothesis that an artificial restriction in the accounting discretions available to Australian companies in the reporting of acquired goodwill area systematically impacts upon the slope of the association between acquired goodwill and bid premium. A review of these studies is provided in Section 2.4. But first, Section 2.2 provides an overview of research on accounting policy choice and relates the main findings to this study. This is followed by Section 2.3, which discusses past studies on the association between acquired goodwill and bid premium. This chapter concludes with Section 2.5.

2.2 Accounting Policy Choice Literature

Accounting policy choice studies date back at least as far as Watts and Zimmerman (1978), and are reviewed in depth by Zmijewski and Hagerman (1981), Holthausen and Leftwich (1983), Christie (1990), and Watts and Zimmerman (1986, 1990). Watts and Zimmerman (1986, p. 2) state that “the objective of accounting theory is to explain and predict accounting practice”. In this light, accounting policy choice studies attempt to explain the choice of

accounting methods amongst available alternatives within the ‘accepted set’, with reference to specific tax, costly contracting, and political cost variables.

Accounting choice theory is an extension of the theory of the firm and the theory of costly contracting (Coase, 1937; Alchian and Demietz, 1972). These theories assume rational, self-maximizing behaviour on the part of all the contracting parties. They argue that, in equilibrium, the set of explicit and implicit contracts that is written between parties to the firm facilitates and guides firm operations. The contracts also decide how proceeds from profitable operations are distributed. The optimal set of contracts that emerges is the set that simultaneously reduces the sum of the three forms of agency cost, which are monitoring costs, bonding costs, and the residual loss (Jensen and Meckling, 1976), and maximizes the firm’s market value.¹⁷ One hypothesized outcome of the theory (which anecdotal and formal evidence confirms) is that the provision of audited financial statements, as a cost-effective efficient contracting mechanism, precedes government regulations such as the UK Companies Act of 1901 and the US Securities Acts of 1933-34 which require that such reports be produced (Watts, 1977; Watts and Zimmerman, 1983, 1986, 1990).

Accounting choice theory rests upon the premise that regulation of financial statements and the choice of accounting methods in an unregulated market will be determined primarily by rational cost-benefit issues. These cost-benefit issues are taken into account by the

¹⁷ An agency relationship is one arising out of a contract where “one or more persons (principals) engage another (the agent) to perform some service on their behalf which involves the delegation of decision-making authority” (Whittred et al., 2000, p. 15). Agency costs arise out of an agency relationship (as the agent may not always act in the best interests of the principal) and they include: (a) the monitoring expenditures incurred by the principal, (b) the bonding expenditures incurred by the agent, and (c) the residual loss (Jensen and Meckling, 1976, p. 308). The residual loss is the ultimate loss in firm value that the agency relationship creates and which is not optimally reduced any further by either the incurrence of additional monitoring or additional bonding expenditures.

contracting parties themselves at the time that the contracts are written (the ‘ex ante’ or ‘efficient-contracting’ perspective) and by opportunistic actions taken by management at the time that the results of operations are presented (the ‘ex post’ perspective).

It will not be cost-beneficial, or even possible, to write in advance contracts that eliminate completely all opportunities for opportunistic actions by the various contracting parties (Emanuel, Wong and Wong, 2003). These opportunistic actions can include the choice of accounting method by firm management where the choice of accounting method determines how the distribution of proceeds of profitable operations to the various firm stakeholders is computed on a period-by-period basis.

Most early empirical work (such as the studies reviewed in Zmijewski and Hagerman, 1981, Holthausen and Leftwich, 1983, and Watts and Zimmerman, 1986) is based on opportunistic explanations of accounting policy choice, where it is assumed that managers choose accounting policies to increase their own wealth at the expense of shareholders (the bonus plan hypothesis) or increase the wealth of shareholders at the expense of debt-holders (the debt/equity hypothesis) or society (the political cost hypothesis).

The bonus plan hypothesis states that “ceteris paribus, managers of firms with bonus plans are more likely to choose accounting procedures that shift reported earnings from future periods to the current period” (Watts and Zimmerman, 1986, p. 208).¹⁸ The debt/equity hypothesis states that “ceteris paribus, the larger a firm’s debt/equity ratio, the more likely the firm’s

¹⁸ A more detailed discussion of the bonus plan, debt-equity and political cost hypotheses can be found in Holthausen and Leftwich (1983), Watts and Zimmerman (1986, 1990), Whittred et al. (2000), Fields, Lys and Vincent (2001) and Holthausen and Watts (2001).

manager is to select accounting procedures that shift reported earnings from future periods to the current period” (Watts and Zimmerman, 1986, p. 216). The debt/equity hypothesis traditionally has been based on the presumption that the higher the debt-to-equity ratio, the closer a firm is to breaching accounting-based terms contained in their debt covenant agreements. These accounting-based terms include maximum pre-specified values for debt-to-total tangible assets, prior charges, and working capital ratios and a minimum pre-specified value for the interest coverage ratio.

The political cost hypothesis states that “ceteris paribus, the larger the firm, the more likely the manager is to prefer accounting procedures that defer reported earnings from current to future periods” (Watts and Zimmerman, 1986, p. 235). The rationale for the political cost hypothesis is that there are typically higher political costs for larger firms since larger firms tend to attract more attention from the media and governmental regulatory bodies. Where political costs are high, lower reported profits can help to divert unwarranted attention, unfavourable government regulations, levies, and taxes.

In later times, accounting policy choice theory has developed to cover efficient contracting (i.e., ex-ante firm-value maximizing) and signalling explanations of accounting policy choice (Holthausen and Leftwich, 1983; Holthausen, 1990; Tan, 2001). The efficient view of accounting policy choice is based on the presumption that managers and other contracting parties will get together at the time of contracting to determine the set of accounting procedures (the ‘accepted set’) that will ex ante minimize agency costs and maximize firm value (Holthausen, 1990, p. 207; Watts and Zimmerman, 1990, p. 136). Thus, while the opportunistic view focuses on the choice of accounting procedures ex post from within the

accepted set, the efficient view focuses on the determination ex ante of the accounting methods that make up the set. The efficient contracting view specifically suggests that a range of accounting options and discretions should remain available to firm managers so that the contracting mechanisms eventually selected by the contracting parties will be suitable given the firm's investment opportunity set, industry, financing, and compensation arrangements.

The information-signalling view was first proposed by Holthausen and Leftwich (1983, p. 112) and Holthausen (1990, pp. 208-209). It holds that, because of the information asymmetry that exists between managers and other market participants, managers may cost-effectively use accounting policy choices and discretions to signal firm value to the capital market.

The latter two explanations (efficiency and information-signalling) have been more popular of late, compared to the opportunism explanation, and hold more promise for future researchers (Watts and Zimmerman, 1986, p. 359). However, at times it has been difficult to empirically distinguish between opportunism and efficiency/information-signalling when a given set of results has been concerned (Fields, Lys and Vincent, 2001, p. 54).¹⁹ Both efficient contracting and information-signalling are similar in that they see a role for the rational determination of accounting policies that is not based on opportunism. Their fundamental difference seems to be that, under the efficient view, the accounting choice affects the

¹⁹ One study which manages to satisfactorily distinguish between the managerial opportunism and information-signalling hypotheses in relation to negative abnormal accruals in asset write-down years is by Rees, Gill and Gore (1996). They argue that their findings do not support managerial opportunism arguments but are supportive of the view that negative abnormal accruals are used in asset write-down years to signal real declines in performance and that these signals provide useful information to the market.

distribution of the firm's present and past cash flows, whilst under the information-signalling view, the accounting choice signals the firm's future cash flows but does not influence them directly (Holthausen, 1990, p. 209). Speaking of any planned move by the Financial Accounting Standards Board to eliminate pooling completely, Ayers et al. (2002, p. 28) emphasize caution because "...eliminating the discretion implicit in the current alternative acquisition accounting methods may limit the ability of financial statements to convey useful information about future prospects of the combined entity".

Skinner (1993) studies the relationship between firms' investment opportunity sets (IOS), the nature of their management compensation and debt contracts, and other firm-specific characteristics such as size, performance, and accounting choices. He finds that the IOS is systematically related to contractual characteristics and as such is an indirect determinant of accounting choices. After controlling for contractual characteristics, the IOS affects accounting choices directly. This is consistent with the efficiency explanation. The evidence suggests that both efficient and opportunistic explanations have a role to play in the determination of accounting choices.

Following on from the early specification of the information-signalling view, a growing and related literature has described the incentives that exist for the voluntary disclosure of private information by managers in the presence of unresolved information asymmetries and the costs that follow from non-disclosure (e.g., Gibbons, Richardson and Waterhouse, 1990; Diamond and Verrechia, 1991; Healy and Palepu, 1993, 1995; Skinner, 1994; Frankel, McNichols and Wilson, 1995; Kaznik and Lev, 1995; Healy, Palepu and Sweeney, 1995). Cotter et al. (1998, p. 160) state: "Absent financial capacity constraints, managers have signalling, contracting,

and compliance incentives to recognise impairments and asset value declines (when they occur) to convey to current and potential claimholders on the firm their expectations of the firm's future cash flows. These incentives to signal value declines not already known to the market are tied to reducing potential costs arising for failing to disclose information relevant to investors and to avoid costs arising with market mis-valuation of the firm (Skinner, 1994; Healy, Palepu and Sweeney, 1995)".

As a result, Cotter et al. (1998) conclude that early recognition of known asset value declines both helps to maintain reporting credibility in the market-place (Healy and Palepu, 1993) and avoids the costs that are incurred when private knowledge, which is not disclosed, later becomes public. Some of these costs include heavy share price fluctuations and increased costs of future debt and equity capital raisings (Kaznik and Lev, 1995; Frankel et al., 1995). Other related costs arise out of the fact that non-conformity with the requirements of the Corporations Law and accounting standards exposes a firm to potential legal liability from regulators. Cotter et al. (1998, pp. 160-161) add that: "These incentives increase the likelihood that impairment and declines in asset values will be accompanied by asset write-downs in the financial statements, and that the magnitude of asset write-downs will reflect the extent of asset value declines."

In this study, the issue does not concern asset write-downs, but with the purposeful accounting policy choice of recognition and amortization of acquired goodwill where managers have private information that the fair value of the acquired goodwill asset has not declined, but might in fact have increased. In this context, avoidance of legal liability is not

likely to be an important reason for accurately disclosing private information about goodwill asset value. However, the arguments about maintaining a credible reporting system do apply.

Accounting policy choices should be able to adequately portray, communicate, and reflect the hidden sources of value to the market rather than artificially distort the signalling process through conservative accounting allocations. One section of the academic literature argues that artificially restricting accounting choices and discretions, via accounting regulation, increases information asymmetries between informed and uninformed investors. This results in higher bid-ask spreads and lower quoted depths (Glosten and Milgrom, 1985; Lee et al., 1993; Bartov and Bodnar, 1996; Boone and Raman, 2001). A higher cost of capital and an increased probability of trading losses through trades with company insiders are direct consequences of lower liquidity in the market for a firm's shares. A strong argument can be put forward that substantial unresolved information asymmetries and lower reported liquidity impose real social and economic costs, and can thus be viewed as socially undesirable.

The accounting policy choice literature provides two primary forms of research (other than survey or experimental papers): those studies investigating the determinants of an accounting policy choice or choices (called accounting policy choice studies) and those studies using share market price or returns as the dependent variable (known as stock price studies) with contracting cost theory and other firm-specific characteristics as the independents.

A successful empirical test is considered to be one where the signs of the coefficients on the independent variables are as predicted by the theory and the associated t-statistics are significant. Watts and Zimmerman (1990, p. 132) state that "positive accounting research

guided the search for the empirical regularities and provided explanations for them. To date, there are no systematic alternative explanations for those regularities articulated and tested in the literature”.

It is important to note that the level of R-square is not regarded as a crucial criterion to determine whether a test has been successful or not. Holthausen and Leftwich (1983) state that “our priors are that accounting choices are not a major determinant of firm values, relative to other decisions a manager makes, such as investment decisions” (p. 108), and that therefore “adjusted R² values are likely to be low, even if economic consequences theories are valid” (p. 109).

This study is a stock price study of accounting policy choice. To the extent that the artificial restrictions upon accounting discretion that AASB1013 imposes prevent effective signalling of expected future net cash inflows, there will be a reduction in the strength of the association between acquired goodwill and bid premium in the post-standard period (see Chapter 3). Accounting policy choice theories that are potentially relevant in the interpretation of this study’s empirical results are (firstly and most importantly) the information-signalling view and (secondly) the opportunism view.

2.3 Evidence from Stock Price Studies

Studies that are directly relevant to the research question are those that document the strength of the associations between bid premium, the acquisition accounting policy choice (in the US context, this is pooling versus purchase), and acquired goodwill.

In prior empirical studies, instead of acquired goodwill (as defined in accounting standards), the target's pre-acquisition market-to-book ratio is used as an indicator of the likelihood that either pooling or purchase accounting be adopted (Gagnon, 1967; Copeland and Wodjak, 1969; Anderson and Louderback, 1975; Nathan, 1988; Robinson and Shane, 1990; Ayers et al., 2002). Studies show a clear association between the choice of acquisition accounting method (purchase or pooling) and the market-to-book ratio. The sign of the reported associations (especially for those acquisitions accounted for as poolings) is generally consistent with the income-maximization hypothesis of Gagnon (1967) and Copeland and Wodjak (1969), which states that where the market-to-book differential is positive (negative), there is a clear preference for pooling (purchase). Prior studies also, for the most part, document a significant association between bid premium and the market-to-book ratio (Walkling and Edmister, 1985; Nathan, 1988; Ayers et al., 2002), and between bid premium and the acquisition accounting method (Robinson and Shane, 1990; Ayres et al., 2002).

Walkling and Edmister (1985) calculate bid premium as the percentage difference between the offer price and the target's market price 14 days prior to the earlier of: (1) the offer announcement date; or (2) the official Securities and Exchange Commission (SEC) filing date. Explanatory variables used in their model are the target's debt-to-assets ratio trend, the target's net-working-capital ratio trend, the target's pre-acquisition market-to-book ratio, the percentage of target shares controlled by the bidder prior to the offer, whether the combination is conglomerate or non-conglomerate, the presence or absence of rival bidders,

whether the bid is contested or uncontested, and whether the bidder is seeking control of 50% or more of the target's shares.²⁰

Using an estimation sample of 108 offers made between January 1972 and September 1976, they show that target firm pre-acquisition market-to-book ratio, leverage, and initial (pre-bid) shareholdings of the bidder are all significantly negatively correlated with bid premium. The existence of a rival bidder and control of 50% sought are significantly positively correlated with the bid premium.

Two explanations for the negative sign on the market-to-book ratio term are presented by Walkling and Edmister (1985) in footnotes. The first explanation, which is based on managerial inefficiency, states that low ratios of market-to-book can be expected to command a higher bid premium where they reflect the target firm's market price failing to maintain pace with underlying asset values in the economy (p. 35, footnote 2). Where this is the case, a bargain purchase acquisition is possible.

According to the second explanation, low ratios of market-to-book may signal target management inefficiency (p. 36, footnote 4), resulting in a higher bid premium. Where target management suffers from inefficiency, market prices will be low relative to book values and rival bidders will compete for the rights to manage these resources more efficiently and secure incremental value gains for their shareholders. This viewpoint is consistent with the analysis in Jensen and Ruback (1983), where the market for corporate control is regarded as a market-

²⁰ Walkling and Edmister's (1985) sample consists of tender offers filed with the SEC between 1972 and 1977. Complete data were obtained for 158 cash tender offers. The mean (median) bid premium for the entire sample is 51.7% (47.0%). Premiums range between 1.5% and 157%, with most being in the region of 20% to 50%.

place where rival management teams compete for the right to manage corporate resources. The interpretation placed by these authors on their results for the market-to-book ratio variable provided a theoretical structure and direction for the research that followed, which included, most significantly, Nathan (1988) and Robinson and Shane (1990).

Based on 461 US takeovers, Nathan (1988) documents a negative and significant association between acquired goodwill and bid premium.²¹ This result is contrary to his prior prediction but is consistent with the removal of inefficient management hypothesis proposed by Walkling and Edmister (1985). Nathan (1988) defines bid premium as the offer price minus the target's pre-acquisition share price measured 60 days prior to the announcement date, divided by the target's pre-acquisition share price measured 60 days prior to the announcement date. This variable can be interpreted as being the percentage premium paid by the acquiring firm over the pre-acquisition market price of the target firm. It will incorporate fully the anticipated total synergistic goodwill to be created by the acquisition, minus any synergistic goodwill already included in the market value of the target prior to the bid.

Acquired goodwill is measured by Nathan (1988) as the target's pre-acquisition share price minus the book value of equity per share divided by the book value of equity per share. In his interpretation of the meaning of acquired goodwill, Nathan (1988, p. 188) states that "... (it) measures the amount of potential goodwill, adjusted for firm size, contained in the target,

²¹ To qualify for inclusion in the sample, the acquirer must increase its holdings from below 50% of the target's shares to above 50% through an identifiable transaction, thus ensuring that a transfer of control is achieved. Although offer premiums are calculated for 506 transactions, accounting data are available only for 461. The sample consists of 261 stock poolings, 66 stock purchases, and 134 cash purchases. All the takeovers involve U.S. firms as target and bidder.

before allowing for an offer premium". It is similar to, and positively correlated with, the market-to-book ratio, but it is not exactly the same. Nathan (1988) argues that the observed significant and negative association between acquired goodwill and bid premium is most likely due to the replacement cost and managerial inefficiency effects (which both support a negative sign for the association) outweighing the accounting effect (which supports a positive sign for the association).

Bargain purchase and managerial inefficiency effects would lead to a negative sign for the association between acquired goodwill and bid premium, following the arguments of Walkling and Edmister (1985). However, a positive sign would be expected if the accounting effect predominates, because the accounting effect indicates that a higher bid premium is paid for acquisitions with higher market-to-book ratios (acquired goodwill) so as to ensure that the acquisition qualifies for the pooling accounting treatment.²² Nathan (1988) notes that, under APB Opinion No. 16, it is difficult to structure an acquisition to qualify for pooling accounting treatment unless target management support is secured during the bid process.²³ As a result, in order to secure this support, a higher bid premium may need to be offered (Nathan, 1988, p. 187; Robinson and Shane, 1990, p. 30; Ayers et al., 2002, p. 7).

²² As stated previously, under the pooling method, there is no goodwill asset and no subsequent amortization of goodwill balances. Where the acquired goodwill balance (and market-to-book ratio) as at the acquisition date is relatively high (low), pooling becomes relatively more (less) advantageous. Note that the pooling method has been banned in the US via SFAS No. 141 and No. 142 (2001). As a result, the above discussion is only applicable to the institutional setting that existed in the US between 1970 and 2000 (inclusive). The primary accounting change resulting from the adoption of SFAS 141 is that business combinations must now be accounted for using the purchase method. The pooling-of-interests method may no longer be used to account for business combinations. This accounting principles change reflects the conclusion that virtually all business combinations are acquisitions. Thus, all business combinations should be accounted for in the same way that other asset acquisitions are accounted for—that is, based on the values of the assets exchanged.

²³ The accounting standard-setting body in the US, the Accounting Principles Board (APB), was replaced by the Financial Accounting Standards Board (FASB) in 1974. However, APB Opinion No. 16: *Business Combinations* (1970) and APB Opinion No. 17: *Intangible Assets* (1970) both remained in place (and in a largely unmodified form) until 2000.

Based on the above reasoning, Nathan (1988) predicts that the coefficient on the interactive term (GOODWILL*APB) will have a significant and positive sign in a multiple regression. The interactive term is measured as acquired goodwill multiplied by an APB dummy variable, which takes on the value of one for a post-APB No. 16 acquisition, and zero for a pre-APB16 acquisition. This means that the slope of the association between acquired goodwill and bid premium is predicted to become more strongly positive (or less strongly negative) after APB 16 as compared to before. However, Nathan (1988) reports that the introduction of APB 16 does not influence the slope of the association between acquired goodwill and bid premium in the predicted (positive) direction. The sign on the (GOODWILL*APB) coefficient is instead negative and significant. This suggests that the replacement cost and management inefficiency effects outweigh the accounting effect (Robinson and Shane, 1990, p. 32).

In an extension of the analysis, Nathan (1988) finds that preferred stock is used less frequently after APB 16 than before. The use of preferred stock as the mode of payment instead of common stock means that one of the criteria for pooling is not met. Statistically, 38% of pre-APB 16 transactions use preferred stock as the method of financing for the takeover, either in conjunction with common stock or singly. However, after APB 16, preferred stock usage falls dramatically, while cash purchase and common stock pooling transactions become more frequent. Cash purchase transactions increase from 18% to 39% of all deals, while common stock pooling transactions increase from 31% to 43%. The differences between the pre- and post-APB 16 proportions (where common and preferred stock combinations and cash-stock choices are excluded from the analysis) are statistically significant using the conventional measures. This is consistent with there being real

economic effects associated with the more stringent prior conditions for pooling contained within APB 16.

Nathan (1988) reports that, after APB 16, pooling is nearly always used for transactions where significantly large pre-acquisition goodwill balances are acquired. The average acquired goodwill value is higher for poolings than for purchases both before and after APB 16. These reported differences are statistically significant for both time periods, irrespective of whether parametric or non-parametric tests of significance are used.

Based on a final sample of 59 stock-for-stock acquisition transactions accounted for as poolings and 36 accounted for as purchases over the 1972-86 period in the US, Robinson and Shane (1990) find that acquirers are willing to pay a premium in those acquisitions that they can structure to qualify for the pooling accounting method.²⁴ In pooling accounting, the bidder and target's assets and liabilities are simply added together, and no goodwill asset and goodwill amortization charge result.

Robinson and Shane (1990) find that poolings and purchases have significantly different mean and median bid premiums ($t=1.75$, $Z=1.75$), with the mean (median) for the 59 poolings being 0.641 (0.614) and for the 22 purchases being 0.419 (0.400). Bid premium (DPREM) is measured as the "swap ratio" or the number of bidder shares exchanged for each target share multiplied by the bidder's share price at the announcement date divided by the target's share

²⁴ The only acquisitions included in the final sample are non-taxable stock-for-stock combinations where the bidder exchanges preferred or common stock for 100% of the target's voting common stock. As a result, mode of payment (cash or shares), which may be a variable which separately impacts upon the bid premium, is effectively controlled for.

price 40 days prior to the announcement date, all minus one. The number of observations in the regression analysis is 92, which excludes three outlying observations. Using the DPREM measure of bid premium, the number of observations is 79 since all mergers with preferred stock as the means of consideration are excluded from this regression.

Robinson and Shane (1990) measure target market-to-book (ZMB) as the market price per share of the target's common stock 40 trading days before the announcement date divided by the book value per share of the target's stock measured as at the last balance date before the acquisition. Pooling transactions have significantly higher mean and median market-to-book ratios than purchase transactions. The mean (median) market-to-book is 0.275 (0.139) for the pooling transactions and -0.037 (-0.098) for the purchase transactions. In a multiple regression, the market-to-book coefficient is negative but not significant ($t=-0.92$). The negative sign supports the inefficient management hypothesis.

In discussing Robinson and Shane's (1990) paper, Clinch (1995, p. 27) concludes that "since pooling and purchase firms differ along other dimensions than simply their treatment of goodwill accounting, it is difficult to determine whether the goodwill accounting difference is driving their results". However, Robinson and Shane (1990) include control variables in their regressions that are also held (by theory and by prior empirical evidence) to influence the bid premium. The control variables used in the Robinson and Shane (1990) model are target liquidity, target leverage, target market-to-book, the bidder's initial pre-bid shareholding in the target, i.e., the toehold, and the relative size of target to bidder. The prior expectations are that accounting method choice and target liquidity will be positively associated with bid premium. On the other hand, target leverage, target market-to-book, and relative size of

target to bidder are all expected to be negatively associated with the bid premium. No prediction is made as to the expected sign for the initial holdings variable.

These variables, together with the key variable of interest, the accounting method choice (AM), are fitted into a multiple regression equation. AM is an indicator variable that takes on the value of one for poolings and zero for purchases. The results show that all the estimated coefficients are of the predicted sign. However, only the accounting method choice indicator and the relative size variables are statistically significant, at the 5% level, using a one-tailed test. The adjusted R-square value is 14.6 percent, which indicates a reasonable but not high degree of explanatory power within the model.

In their interpretation and conclusion, Robinson and Shane (1990) point to the signs and significance of the t-statistics on their variables of interest (primarily the accounting method choice indicator variable, but also the market-to-book ratio) and conclude that the results support their hypotheses and the underlying theory. The inclusion of a number of control variables in the regression model, all of which are supported by finance theory and consistent with empirical evidence from prior literature, reduces the likelihood that the observed sign and significance on the accounting method choice indicator variable are the unforeseen result of correlated omitted variables.

Choi and Lee (1991) and Lee and Choi (1992) extend the research where cross-border differences in accounting standards for business combinations are used to provide a unique institutional setting for the studies. In the first study, Choi and Lee (1991) use a sample of 1,056 US bids and 104 UK bids (exclusive of outliers) for US targets over the period from

1985 to 1989.²⁵ They find that UK bidders pay significantly more for US targets than do US bidders, consistent with the common argument in the commercial business press (e.g., Davis, 1992) that US bidders are at a competitive disadvantage in the global acquisitions market relative to bidders who maintained the option (under their national accounting standards) of writing goodwill off against equity reserves fully in the year of the acquisition.

Bid premium is measured in Choi and Lee (1991) as the difference between the total offer price on the deal announcement date and the market value of the acquired firm (purchased portion), all divided by the book value of the net assets acquired.²⁶ Mean bid premiums are 0.932 for UK bids and 0.387 for US bids, with this difference of 0.545 being statistically significant at the 5% level. The mean bid premium for the US bids (0.387) is similar to that reported for acquisitions accounted for as purchases (0.419) in Robinson and Shane (1990).²⁷

Choi and Lee (1991) regress bid premium against the following variables: a country dummy (taking on the value of one for a UK acquisition and zero for a US acquisition), acquired goodwill, and a goodwill interactive term, which is the product of acquired goodwill and the country dummy. Acquired goodwill is measured as the pre-acquisition market value of the

²⁵ During the 1985-89 period, APB Opinion No. 17: *Intangible Assets* in the US required capitalization and amortization of acquired goodwill over a maximum 40 year period, whereas SSAP No. 22 in the UK permitted either capitalization and systematic amortization (the preferred method), or immediate write-off of goodwill, against equity reserves, in the acquisition year.

²⁶ The bid premium is computed at four distinct points in time: one day, one week, one month, and two months prior to the deal announcement date.

²⁷ The slight difference in reported mean bid premium can be attributed to a combination of the following factors: (a) Robinson and Shane (1990) scale by target market value per share, whereas Choi and Lee (1991) scale by target book value per share, which suggests that Choi and Lee (1991) should report a higher mean bid premium, (b) Robinson and Shane (1990) accumulate bid premium over the 40 day period ending at the announcement date, whereas Choi and Lee (1991) accumulate bid premium only from the day prior to the announcement date, which suggests that Robinson and Shane (1990) should report a higher mean bid premium, and (c) Robinson and Shane's (1990) sample period is from 1972 to 1986, whereas Choi and Lee's (1991) sample period is from 1985 to 1989, with no obvious implication as to which study should report a higher mean bid premium.

acquired firm (purchased portion) at the start of the returns window used to compute the bid premium minus the book value of net assets acquired as at the end of the prior financial year, all divided by the book value of net assets acquired as at the end of the prior financial year.²⁸

The country dummy variable measures whether UK bidders outbid US bidders for US targets for reasons unrelated to the accounting treatment of the acquired goodwill. The goodwill interactive term measures whether any additional bid premium paid by UK bidders is associated with not having to amortize acquired goodwill against earnings. The acquired goodwill term measures whether higher pre-acquisition goodwill is reflected in a higher bid premium. Choi and Lee (1991) report a negative and insignificant coefficient on the country dummy variable (minus its interaction with acquired goodwill) across all regressions. This indicates that where goodwill accounting effects are excluded from consideration, US bidders pay marginally, but not significantly, higher bid premium than do UK bidders for US targets. The acquired goodwill term (minus its interaction with the period dummy) is positive but insignificant. The goodwill interactive term with a country dummy is positive and significant across all regressions. Choi and Lee (1991) interpret this as consistent with an excess bid premium paid by UK bidders being the result of not having to amortize acquired goodwill against earnings in the immediate post-acquisition period. The positive and significant coefficient on the goodwill interactive term indicates that the slope of the association between acquired goodwill and bid premium is significantly more positive for the UK bidders than for the US bidders.²⁹

²⁸ There are therefore four measures of goodwill that correspond to the four measures of bid premium.

²⁹ Choi and Lee (1991) run this regression using all four alternative measures of bid premium and goodwill. The results are qualitatively the same for all regressions, but are stronger for the shorter returns intervals.

Clinch (1995, p. 27) suggests that omitted variables correlated with acquired goodwill accounting treatment (e.g., unspecified tax effects) might explain Choi and Lee's (1991) results. He adds further that "(a) potential weakness in the Choi and Lee study is that they did not explicitly specify and test the link between goodwill accounting and subsequent economic consequences" (p. 27). Nevertheless, the study is not and does not intend to be a direct investigation of the determinants of accounting policy choice in the acquired goodwill area.

In the light of Clinch's (1995) comments, it is important to note that the highly significant result for the goodwill interactive term in Choi and Lee (1991) remains unchanged in their expanded regression model. The additional explanatory variables are mode of payment, type of offer, tender offer, and target hostility.³⁰ This suggests that it is highly unlikely, but not impossible, that correlated omitted variables not related to the accounting treatment for acquired goodwill are creating the positive and significant association observed between the goodwill interactive term and bid premium.

Their results are overall supportive of profits-based management compensation being a systematic determinant of the bid premium. Mandatory goodwill amortization charges reduce reported consolidated profits in the post-acquisition period and hence the present value of all profits-based (direct and indirect) management compensation. Choi and Lee (1991, p. 266) state that: "From a management's perspective, p^* (management's reservation offering price) will be consistent with that level which optimises the discounted present value of their expected compensation stream. In the case of US acquirers management's reservation offering price will be constrained by the effects of amortisation of any premiums paid on the

³⁰ Of the control variables, only type of offer and tender offer are significant at the conventional 5% level.

present value of their performance-based compensation. This logic appears to be the rationale underlying the conventional wisdom which says that UK companies, by not having to amortise goodwill, have an incentive to offer relatively higher premiums for an acquisition target than their US counterparts” (emphasis added).

Cheng et al. (1997)³¹ find no significant differences in mean bid premiums paid between bidders from countries who may write acquired goodwill off against equity reserves in full in the year of acquisition and bidders from countries who are required to amortize acquired goodwill systematically against earnings.³² Cheng et al. (1997) follow the lead of an earlier study by Dunne and Ndubizu (1995) by including successful acquirers from a range of countries, and dividing these countries into a reserve accounting group and an amortization group. Cheng et al. (1997) include only cash transactions in their final sample, which means that all the US acquirers in the final sample used the purchase method (the pooling method is prohibited for cash transactions) systematically amortized acquired goodwill to the profit and loss account over a maximum period of 40 years.

Cheng et al. (1997) measure bid premium as the offer price per share minus the pre-acquisition target market price per share 60 days prior to the announcement date, divided by

³¹ Cheng et al. (1997) use a sample of 262 acquisitions made over the 1982-89 period.

³² Countries classified as reserve accounting countries are Hong Kong, Italy, Netherlands, Switzerland, UK and the former West Germany, while countries classified as amortization countries are Australia, Belgium, Canada, France, Japan, New Zealand and the US. Countries that have the choice of amortization or reserve are classified as reserve, contrary to Dunne and Ndubizu (1995) who base their classification on the descriptions of prevailing practice in Bavishi (1989). These 1995 classifications into reserve and amortization groups did not change over the period 1995 to 2002, with the exception of the UK, which shifted from the reserve group to the amortization group (Radebaugh and Gray, 2002, p. 178).

the pre-acquisition target market price per share 60 days prior to the announcement date.³³ The t-statistic for the difference in mean bid premiums between the reserve group and the amortization group is not significant at the conventional level.

Cheng et al. (1997) measure “acquired goodwill” as the pre-acquisition target market price per share 60 days prior to the announcement date, minus the tangible book equity per share, all divided by total assets per share. This is the same definition as in Nathan (1988). Total assets per share is just a deflation factor, and is not integral to the definition of the variable. Cheng et al. (1997) report a negative association between bid premium and acquired goodwill, which is significant at better than the 1% level. The sign and significance level for this association is consistent with both Walkling and Edmister (1985) and Nathan (1988).

In a multiple regression, Cheng et al. (1997) use an accounting treatment dummy variable. It takes on the value of one if the bidder is required to capitalize and amortize acquired goodwill, and zero if the reserve method is allowed in the bidder’s country of origin. Bid premium is the dependent variable. The explanatory variables are the accounting treatment dummy variable, acquired goodwill, a tax deductibility dummy variable, a US Tax Reform Act 1986 (TRA) dummy variable, tax regime, competition, relative size, target leverage, and target liquidity. Only the estimated coefficients for acquired goodwill, competition, relative size, and target leverage are significant.

³³ Cheng et al. (1997) adopt precisely the same measure of bid premium as Nathan (1988). By contrast, Robinson and Shane (1990) begin to accumulate abnormal returns only from the date 40 days prior to the announcement date.

Table 7 on p. 55 of Cheng et al. (1997) shows that, of the significant coefficients in multiple regression on their full sample (n = 220), goodwill, relative size and competition are of the predicted sign. The predicted signs are negative for goodwill, and positive for competition and relative size. Target leverage is significant, but of the wrong sign. A negative sign was predicted for this variable. These findings are discussed in the text of Cheng et al. on p. 53. The insignificant result for the accounting treatment dummy variable in multiple regressions confirms the results of the mean difference test.

In an extension of the analysis, Cheng et al. (1997) find that foreign acquirers who are permitted to use reserve accounting acquire, on average, targets with significantly higher pre-existing (extant) acquired goodwill balances. As a result, Cheng et al. (1997) conclude that acquired goodwill accounting rules (amortization or reserve accounting) systematically impact upon the market for corporate control in a predictable way in terms of the selection of takeover targets. Where goodwill amortization is mandatory, bidders tend to avoid the acquisition of targets with higher pre-existing acquired goodwill balances to avoid (a) the unfavourable financial statement effects; and (b) the reduction in valid signalling options that result in the years after the purchase. This particular finding can be explained using either an information-signalling and/or an opportunism perspective.

Ayers et al. (2002) take Robinson and Shane's (1990) paper a step forward by testing for an interactive effect using a two-stage instrumental variables regression model, where the bid premium (price paid in the acquisition) jointly affects and is affected by the acquisition accounting policy (which, in the US institutional setting between 1970 and 2000, means purchase versus pooling). The joint determination of bid premium and accounting method is

referred to as the *identification problem* in Wyatt (1967). He states that "...the accounting treatment is the one of the variables that must be firmed up before the final price (in terms of exchange ratios) is determined. What this means is that the value imputed to goodwill based upon the value of shares exchanged in a pooling combination is quite an artificial value. Only rarely would such value be that which would actually result had the transaction been effected as a purchase" (p. 212).

Ayers et al.'s (2002) results indicate that the cause and effect do operate in both directions. The conventional argument is that bid premium affects accounting policy choice because, according to the income-maximization hypothesis (Gagnon, 1967; Copeland and Wodjak, 1969), where the market-to-book differential is positive (negative), managers prefer to use pooling (purchase) so as to secure the maximum accounting-related benefits associated with the acquisition. The argument for accounting choice impacting bid premium is that, under the pooling criteria contained in APB No. 16, the acquiring firm needs to pay a higher bid premium to gain target management support for the bid and thus secure the opportunity to qualify for pooling accounting treatment (Nathan, 1988, p. 187; Robinson and Shane, 1990, p. 30; Ayres et al., 2002, p. 7).

Ayers et al. (2002) conclude that the FASB's proposed (as at 1999) *Business Combinations* project,³⁴ which eliminates the use of pooling accounting, will systematically impact upon the

³⁴ The FASB subsequently issued SFAS No. 141 and 142 which together ban the pooling method and set up an annual impairment test for acquired goodwill, whilst at the same time remove the amortization requirement. The *Business Combinations* project of the FASB was still in progress at the time (1999) that the original working paper version of Ayres et al. was widely available on the Social Sciences Research Network (SSRN).

market for corporate control (acquisition price).³⁵ Consistent with the findings of Cheng et al. (1997), Ayers et al. (2002) find that pre-existing goodwill (market-to-book ratio) is significantly higher for pooling targets (where the successful bidder qualified for and used pooling accounting) than for purchase targets. Ayres et al. (2002) define the market-to-book ratio as the ratio of target market value 40 days prior to the acquisition announcement divided by the book value of target equity. They find that the mean (median) value of the market-to-book ratio is 5.492 (1.723) for pooling targets and 3.319 (2.490) for purchase targets. This result indicates that successful bidders are more likely to use the pooling treatment when pre-existing goodwill is high so as to avoid (a) the unfavourable financial statement effects of, and (b) the reduced information-signalling opportunities created by, the purchase method. Two relatively recent empirical studies, Cheng et al. (1997) and Ayres et al. (2002), therefore confirm this important finding.

Ayres et al. (2002) define bid premium as the acquisition premium for the target firm calculated as the acquisition price less the target's market value 40 days prior to the acquisition announcement, deflated by the latter. The control variables in the regression with bid premium as the dependent variable are toehold, management proportional share ownership in the target, defensive measures in place or otherwise, stock repurchase plan in place or otherwise, substantial asset sales undertaken or otherwise, competing bidders, relative size of target and bidder, target leverage, target liquidity, target market-to-book ratio, research and development intensive industry or otherwise, and acquisition synergistic benefit. Of the control variables, toehold, market-to-book, and relative size are expected to have

³⁵ Ayers et al.'s (2002) sample consists of 200 non-taxable United States stock-for-stock acquisitions (49 purchases and 151 poolings) made over the 1990-96 period.

negative signs. Competing bids and management ownership are expected to have positive signs. No predictions are made as to the expected signs of the other variables. In the regression, PACT is the instrumental variable for ACT (accounting policy choice is a binary variable that takes the value of one for a pooling and zero otherwise), constructed from the first-stage probit regression of ACT (dependent) against exogenous variables.

Based on 185 observations, the results indicate that coefficients for toehold, competing bids, relative size, and market-to-book are in the predicted direction and at least marginally significant. The coefficients for defensive measures, repurchase plans, asset sales, managerial ownership, target leverage, and synergy are not significant. The results show that targets from research intensive industries earn higher acquisition premiums than the rest. The coefficient for target liquidity is positive and significant, supporting the results of Robinson and Shane (1990) but inconsistent with Billett and Ryngaert (1997). The highly significant positive coefficient on the PACT variable indicates that firms pay more in order to use the pooling method.

The adjusted R-square in the premium regression model is 20.0%, which is a reasonable improvement over the 14.6% reported by Robinson and Shane (1990). This suggest that the incorporation of a larger set of control variables, drawn from the key papers published subsequent to 1990 in the takeovers literature (e.g., Comment and Schwert, 1995 and Schwert, 2000) appears to have increased our theoretical understanding of the economic determinants of the takeover bid premium. It is less likely that recent results such as those reported by Ayers et al. (2002), which indicate that bid premium and acquisition accounting

policy choice are jointly determined, are being driven by correlated omitted variables in the regression models.

Ayers et al. (2002) estimate that the average premium paid specifically to structure the acquisition as a pooling is an additional US \$60 million. This value is approximately 10% of the total average purchase price paid and is consistent with the case study findings of Lys and Vincent (1995). They estimate that AT&T paid NCR shareholders an amount equal to an extra 6% of the purchase price, or US\$5 to \$7 per share, to qualify the acquisition for pooling accounting treatment.

2.4 Accounting Policy Choice Studies and Acquired Goodwill

Accounting policy choice studies in the areas of acquired goodwill and identifiable intangible assets attempt to explain the accounting policy choice using explanatory variables suggested by contracting and political cost theory. These studies are indirectly relevant in that they provide insights as to why certain accounting policies may be preferred, in the absence of regulation, and why costs may be imposed on firms who are constrained in their choice of accounting policies. These studies are conducted from an opportunistic, efficient, or information-signalling perspective.

In a test for opportunism, Grinyer, Russell and Walker (1991) find that the proportion of the acquisition price allocated to acquired goodwill in UK takeovers (rather than to the target's net tangible assets) is a significant negative function of the bidder's post-acquisition leverage. This is consistent with highly levered firms wanting to retain equity on the balance sheet in

the form of depreciable and non-depreciable tangible assets. This is their preference rather than having equity classified as acquired goodwill, and having this acquired goodwill written off completely to reserves.³⁶

Grinyer et al. (1991) argue that firms trade-off the income statement and balance-sheet effects of the immediate goodwill write-off option, with highly-levered firms regarding the negative balance-sheet effects (equity is immediately reduced by the full amount of the goodwill) as more important than the favourable income-statement effects (the immediate write-off option avoids the post-acquisition earnings drag created by systematic amortization). The reverse is true for lowly-levered firms. This study demonstrates that opportunism is an important factor in accounting policy choice because highly-levered firms may be closer to breaching debt covenants that contain a leverage clause.³⁷ As a result, they select their goodwill accounting policy opportunistically so as to improve their reported (book) leverage.

Grinyer et al. (1991) also find that the size of the acquired firm is negatively related to the proportion of the purchase price allocated to acquired goodwill. They argue that firms acquiring larger subsidiaries incur greater risks and want to assure shareholders that there is

³⁶ Statement of Standard Accounting Practice (SSAP) No. 22 (1984, rev. 1989) in the UK allows firms to capitalize and amortize acquired goodwill, or write goodwill off as an immediate charge against equity reserves. Immediate write-off was the policy option preferred by the standard, and used by 98% of UK firms in 1986 (Russell, Grinyer, Malton and Walker, 1989). This choice of policies remained in place until the replacement standard Financial Reporting Standard (FRS) 10 was introduced in 1997. FRS10 eliminated the write-off option for UK firms, and mandated capitalization and systematic amortization, thus bringing the UK regulations into line with (as far as requiring mandatory amortization is concerned) the 1993 amended version of the IASB standard IAS22: *Business Combinations*, the Australian standard AASB1013, and the US standard APB Opinion No. 17 (now superseded).

³⁷ A leverage clause is a line-item in a private bank loan or public debt contract which states that the borrower is in technical default on the agreement if the ratio of debt to total tangible assets exceeds x percent (borrower and lender to fill in the blank) as at the end of the financial year. Whittred et al. (2000) and Cotter (1998) document this process in detail for Australian firms, as does Citron (1992a, 1992b) for UK firms. The minimum acceptable leverage is usually in the region of 60 to 70 percent for Australian firms, with small, medium and large firms being treated slightly differently.

sufficient security in the target's tangible assets if the target fails. They report little evidence of reclassification of acquired goodwill as identifiable intangible assets (IIA) at the time of the acquisition.³⁸

The efficient contracting view of accounting policy choice, although not mutually exclusive from the opportunistic view, assumes that the majority of accounting policy choices are made ex ante, in agreement with the other contracting parties, so as to maximize firm value (Holthausen, 1990, p. 207; Watts and Zimmerman, 1990, p. 136). A related, but distinct, view (the information asymmetry view) emphasizes the information asymmetry of managers, shareholders, and debt-holders and how managers frequently make a cost-effective decision to communicate (signal) value-relevant private information to the capital market through accounting policy choice (Holthausen and Leftwich, 1983; Holthausen, 1990; Bartov and Bodnar, 1996; Coombes et al., 1997; Boone and Raman, 2001; Tan, 2001).³⁹

Daley (1985) surveys the 1984 annual reports of 200 randomly selected Australian Stock Exchange (ASX) listed companies to examine contracting cost explanations for their acquired

³⁸ Wines and Ferguson (1993) document that this accounting practice became common in Australia after AASB1013 was introduced in 1987. The number of companies adopting an amortization policy for acquired goodwill, and the number of companies adopting a non-amortization policy for identifiable intangible assets, both increased steadily from 1988 up until 1992. Although acquired goodwill was required to be capitalized, and then amortized over a maximum period of 20 years under AASB1013, there was no similar mandatory amortization requirement in place for identifiable intangible assets in Australia during the entire sample period covered by this study (1981 to 2000). A non-mandatory Exposure Draft ED49: *Accounting for Identifiable Intangible Assets* was in force between 1989 and 1992.

³⁹ At both the conceptual and practical levels, it can be hard to distinguish the efficiency and information-signalling perspectives. Holthausen (1990) suggests that, under the information-signalling perspective, accounting numbers serve as a signal of expected future cash flows, whilst, under the efficiency perspective, accounting numbers reveal or apportion (for distribution) past and present cash flows. So, for example, Zimmer's (1986) finding that "the capitalization of interest costs is more likely to be permitted for Australian real estate developers where project specific finance is used" (as arbitrary allocations of interest costs to projects will not be an issue under project specific finance) is more likely to be regarded as an example of efficient contracting than information-signalling. The signalling of future cash flows is not a relevant issue. Nonetheless, in other cases, authors often appear to use the two terms 'efficient contracting' and 'information-signalling' interchangeably.

goodwill accounting policy choice. The only significant associations she observes are that firms opposing the extant professional standard AAS18: *Accounting for Goodwill* are larger and have lower interest coverage ratios than firms who do not oppose, evidence which is weakly consistent with her hypotheses.⁴⁰

Pavletich (1989) studies the reaction of Australian firms to the introduction of the legally-binding AASB1013.⁴¹ He finds that there are fewer obvious declarations of non-compliance under the AASB1013 regime than when the non-binding professional standard AAS18 was the only goodwill accounting standard in place. However, there are also more instances (under AASB1013 than under AAS18) of firms obtaining valuations for identifiable intangible assets such as trademarks, patents, and brand names (not covered by AASB1013 or AAS18) and recognizing these amounts as capitalized non-current assets. Consistent with his hypotheses, there are also more instances of firms revaluing non-depreciable assets (such as land and investments) arising out of acquisitions so as to minimize the corresponding amounts allocated to acquired goodwill. As Zmijewski and Hagerman (1981) emphasize and test for, this finding shows that accounting policy choices need to be viewed collectively rather than in isolation.

⁴⁰ See Appendix A for a detailed *Accounting Standards Timetable* which documents the processes whereby firstly AAS18 was issued in 1984, and later AASB1013 in 1987. The professional standards (the former AAS series, now no longer in existence) were jointly issued by the two professional accounting bodies in response to research conducted by the research arm of the accounting profession, the then Australian Accounting Research Foundation (AARF). The AAS series of standards have increased in number since the early 1970s. However, at all stages in the past, they were binding only upon members of the accounting profession. Whittred et al. (2000, chapter 1) discuss in detail the key developments in the history of accounting standard-setting in Australia, starting from the origins in 1946 to the present state of play in 1999.

⁴¹ The Australian Accounting Standards Board (AASB) was known as the Accounting Standards Review Board (ASRB) in the late 1980s, and AASB standards were then known as ASRB standards, e.g., ASRB1013 rather than AASB1013. To avoid confusion, the official Australian standard-setting body is always referred to in this study by its present name, that is, the AASB, and its set of accounting standards are referred to as the AASB standards.

In an Australian study of acquired goodwill accounting policy choice, Anderson and Zimmer (1992) find that, prior to the issuance of AASB1013, which took effect in financial years ending on or after 19 June 1988, firms with high ratios of acquired goodwill to (firstly) operating profits and (secondly) market-to-book equity are more likely to capitalize and amortize acquired goodwill than to write it off immediately against reserves. Anderson and Zimmer (1992) use the efficient contracting perspective to argue that the observed firm behaviour in the pre-AAB1013 period is consistent with an unregulated accounting environment producing an ex ante efficient contracting outcome, i.e., one that is in the best interests of all the contracting parties.

To be specific, in the unregulated period, firms with valuable intangible assets use the accounting mechanisms available to them (capitalization, with or without systematic amortization) to communicate the present value of expected future net cash inflows arising from the firm's investments in these intangible assets to the relatively less informed capital market. Firms with lower expected future net cash inflows from their investment in intangible assets avoid use of this signalling mechanism because they have learnt (presumably) that penalties are imposed upon false signallers by the capital markets or the legal process.

The passage of AASB1013 sees the situation reverse. In the immediate post-standard period, firms with high ratios of acquired goodwill to operating profits and market-to-book equity are more likely to write off acquired goodwill as a once-off extraordinary item (below-the-line) in

the year of acquisition.⁴² However, firms with low ratios of acquired goodwill to operating profits and market-to-book equity are more likely to capitalize and amortize in conformity with the accounting standard.⁴³

Thus, the passage of AASB1013 in Australia seems to have resulted in acquired goodwill accounting policy choices moving in a direction that makes the reported income statement and balance sheet numbers less reflective of economic values, and less useful to the capital markets. Companies where acquired goodwill has a high (low) economic value try to avoid (not avoid) reporting that acquired goodwill as a capitalized asset on the consolidated balance sheet in the post-AASB1013 period.

Anderson and Zimmer (1992) argue that, in the immediate post-AASB1013 period, opportunism is the primary determinant of the goodwill accounting policy choice in many cases. However, in the unregulated (pre-standard) period, the accounting policy choices observed for the vast majority of firms are the efficient outcomes. This study is important in that it empirically documents a change in accounting policy choices before and after the accounting standard (and the changes observed can be reasonably attributable to the provisions of the standard). It is also significant in that this study is able to offer a convincing explanation for the obtained results within the context of accounting policy choice theory.

⁴² An extraordinary item is disclosed as a separate line item (along with its associated income tax effect) in the income statement but it appears below the place where net profit is drawn up, and so is said to be a below-the-line item. An extraordinary item does not affect the calculation of net profit.

⁴³ The option of an immediate write-off of acquired goodwill as an extraordinary item (below the line of operating profits in the income statement) was a concessional treatment allowed to a small number of companies who made a formal appeal to the then Australian corporate regulator, the National Companies and Securities Commission (NCSC). This concessional offer was not offered in following years. As a result, it is not possible to exactly replicate the Anderson and Zimmer (1992) study in Australia in later years

In a study on the determinants of accounting policy for identifiable intangible assets (IIA) in Australia, Coombes et al. (1997) find that the rate of amortization of IIA (amortization expense divided by book value of IIA) is negatively related to the book value of IIA (expressed as a percentage of market value of equity). They also find that where the IIA belongs to a class of IIA with a maximum specified legal life (e.g., patents), the IIA is more likely to be amortized. They argue that managers efficiently signal the value of growth options to the market through the IIA amortization charge (a lower rate of amortization implies more valuable growth-options), consistent with the information-signalling perspective of accounting policy choice propounded in Holthausen (1990).

Coombes et al. (1997) note that the variables traditionally used to proxy for opportunistic selection of accounting policies, notably firm size and leverage, are not significant determinants of the revealed amortization policy. This paper thus provides support for the information-signalling perspective and suggests that, in accounting policy areas where discretion is still available (i.e., accounting for identifiable intangible assets), information-signalling and not opportunism is the primary motivation and driving force behind the (observed) accounting policy choices.

Grinyer et al.'s (1991) results (discussed above) have been subsequently re-interpreted by Wong and Wong (2001), who propose an explanation for the findings (allocation of purchase price to either goodwill or tangible assets is associated with leverage) that is not based on opportunism. Wong and Wong (2001) argue that bidder firms with high levels of growth-options (growth firms), compared to assets-in-place, will prefer to allocate a higher proportion of the acquisition price to acquired goodwill rather than to tangible assets because this signals

to the capital market the characteristics of the firm's investment-opportunity-set (IOS). They argue that it is the firm's IOS that efficiently determines leverage (high growth firms will have little debt) and acquired goodwill accounting choice (high growth firms prefer to allocate purchase price to goodwill so as to signal above normal expected future cash flows) instead of the acquired goodwill accounting choice being determined only by leverage. It can be concluded that Grinyer et al. (1991)'s model suffers from the omitted variables problem (the IOS is the omitted variable, and it is correlated with leverage) that Watts and Zimmerman (1990) discuss.

Wong and Wong's (2001) study is significant because it demonstrates the importance to fully describe the theoretical relationship between the model variables, and to consider all theoretical perspectives. It is also significant because it demonstrates that information signalling is an important and possibly the primary determinant of accounting policy choice in an unregulated accounting environment in the area of accounting for goodwill and intangible assets.

The research findings of Anderson and Zimmer (1992) and Coombes et al. (1997) and the Wong and Wong (2001) re-interpretation of Grinyer et al. (1991) indicate that there is substantial theoretical and empirical justification in the extant literature to support the primary presumptions to be tested in this study, i.e., that (a) information-signalling is a significant determinant of goodwill accounting policy discretions in an unregulated environment; and (b) an accounting regulation that eliminates most of the accounting discretions in this area will inhibit the signalling of managers' private information about expected future net cash inflows,

and therefore reduce the slope of the observed association between acquired goodwill and bid premium (for reasons related to signalling).

Research on accounting policy choice in acquired goodwill also extends to other countries. In Singapore, Tan (2001) studies the goodwill accounting policy choice permitted by the original version of International Accounting Standard IAS22: *Business Combinations* (1987).⁴⁴ Under the original version of IAS22, as applicable in Singapore in the year 1996, purchased goodwill could either be capitalized and amortized or written off directly against reserves. Tan (2001) hypothesizes that there will be a predictable association between the accounting policy choice for acquired goodwill (recognition or immediate write-off) and the human capital specificity of the chief executive officer (CEO). In particular, where the human capital specificity of the CEO is high (low), there should be more (fewer) firms adopting the recognition policy. This is because human capital specificity is largely gained by the CEO through experience and is also primarily firm-specific. The level of human capital specificity of the CEO is positively associated with the market value of the firm's intangible assets.

Tan (2001) argues that information signalling is the primary determinant of the acquired goodwill accounting policy choices that she observes rather than managerial opportunism. The information being signalled is the incremental value derived from the human capital of the CEO or, more specifically, the firm's investment in that value.⁴⁵ Tan (2001) reports a

⁴⁴ The International Accounting Standards Board has issued a new accounting standard IFRS3: *Business Combinations*, which replaces IFRS22: *Business Combinations* (www.iasplus.com, accessed 29 June 2004).

⁴⁵ Specific knowledge is unique to individual firms and managers and is gained by those managers through experience. Given that specialised assets are created from firm-specific circumstances over time, firm-specific knowledge potentially has the ability to explain the recognition policies relating to those specialised assets (using an information-signalling framework). Overall, the evidence presented by Tan (2001) supports a positive

significant association between the level of human capital specificity and the goodwill accounting policy choice with the sign of the association being as predicted. Through additional robustness testing, she is also able to conclude that the result observed is unlikely to be attributable to managerial opportunism.

Aboddy et al. (2000) study the economic factors that led US firms operating under APB Opinions No. 16 and No. 17 to prefer the use of either the pooling-of-interests or purchase accounting method. In their sample of stock-for-stock acquisitions, they find that the probability of using pooling is a jointly increasing function of the step-up (the premium of the consideration over the target book value) and a range of variables that proxy for economic benefits (the accounting-related benefits) gained from compensation and debt contracts. In particular, where there is a large step-up, firms with earnings-based executive compensation plans are more likely to use pooling. This is consistent with the desire of the CEO to avoid the negative earnings drag of the purchase method (in the post-acquisition period) for compensation-related reasons. There is no additional relation observed between the probability of pooling and the interaction of step-up with either stock-based compensation or the job security of the CEO. Consistent with the positive implications of the purchase method for the balance sheet, firms with higher debt to equity ratios, and therefore more likely to be close to breach of accounting-based terms in their debt contracts, are more likely to choose purchase and avoid pooling.⁴⁶

association between the firm-specific knowledge of the CEO and the adoption of a recognition policy for goodwill.

⁴⁶ This is consistent with Grinyer et al.'s (1991) finding in the UK that allocation of the purchase price to either goodwill or tangible assets is associated with leverage.

Firms are more likely to use share repurchase plans in the post-acquisition period (as evidenced by prior announcement of a share repurchase plan, or the existence of a large number of outstanding employee stock options) have a higher (lower) probability of selecting purchase (pooling). This is consistent with there being substantial economic costs associated with pooling in those contexts where the acquiring firm proposes share repurchases.⁴⁷ However, contrary to this, there is no evidence that firms that are more likely to have their post-merger plans for the merged entity substantially disrupted by restrictions on asset divestitures tend to prefer purchase.

The primary implication of this study is that opportunism on the part of managers of US firms does appear to be a significant factor in driving the choice of adoption of the purchase or pooling-of-interests accounting method at the acquisition date. These results led Aboody et al. (2000) to conclude that complying with the restrictive criteria in APB Opinion No. 16, which allow a merger to be accounted for as a pooling, subject to the twelve criteria being met, impose a deadweight cost. This is because of the prevalence of opportunism. That is, firms may make decisions with real economic consequences (such as abandoning share repurchase plans or refraining from asset divestitures for a certain time period after the merger) simply to qualify for pooling accounting treatment and obtain the accounting-related benefits that go with the pooling treatment and which are not related to firm value maximization. As a result of this, the authors suggest that the FASB implement (which they later did) a single method of accounting for business combinations. However, the authors stop short of recommending to the FASB adoption of either purchase or pooling. This is

⁴⁷ One criterion for use of pooling under APB No. 17 is that there are restrictions placed upon changes in equity interests of the voting common stock in the two-year period following the merger (Aboody et al., 2000, p. 269).

because, as they note in their closing sentences, efficiency considerations will also impact upon the relations between accounting, investment, and financing policies (Watts and Zimmerman, 1990).

The study of Aboody et al. (2000) is thus limited and specific in its findings and applications. It attempts to document evidence of opportunistic selection of accounting policies in one specific context (purchase or pooling at the acquisition date) but does not claim to document all determinants of accounting policy selection. Nor does it rule out efficiency as an important alternative or additional explanation. There is still limited evidence as to why pooling or purchase may be preferred for efficiency or information signalling reasons. The nature of the criteria to pool under APB Opinion No. 16 is such that it is an area where opportunistic actions are most likely to go undetected (due to the rules-based nature of most of the guidelines) and yield significant private benefits (because of the either-or, rather than incremental, nature of the purchase-pooling choice).

Weber (2004) studies the share market reaction to the announcement of SAB 96 in March of 1996. SAB 96 requires that US firms electing to use the pooling method in place of the purchase method forego any proposed share repurchases for up to two years after the completion of the merger. Weber (2004) argues that the decision to remain with pooling and abandon share repurchases, or convert to purchase and continue with the repurchases, depends upon the acquiring firm management's perceptions of the net costs and benefits of the two alternatives.

Weber (2004) finds a negative share price reaction to the adoption of SAB 96, consistent with the costs of foregoing repurchases or cancelling the merger or abandoning pooling (the three alternatives available to the acquiring management) exceeding the benefits of this additional restriction on the use of the pooling method. There is a clear preference exhibited by managers to retain pooling after the implementation of SAB 96. In fact, 90 percent of mergers in the post-SAB 96 period are accounted for as poolings. This finding indicates that, despite the negative share price reaction to SAB 96, managers gain considerable private benefits from the use of pooling and that the additional restriction on the use of pooling does not motivate them to relinquish the method. These benefits that accrue to management from retaining pooling and foregoing share repurchases must logically exceed any private costs they bear connected with the foregoing of firm value increasing proposed share repurchase arrangements.⁴⁸

The negative share market reaction is positively correlated with the financial statement impact of pooling. It is also positively correlated with the anticipated benefits that shareholders expected to receive from the proposed share repurchases. This indicates that the acquiring firm shareholders perceive that the costs of the use of pooling (from the viewpoint of the shareholders, not the managers) exceed the benefits to be gained from the method's use. The market thus expects that the effect of SAB 96 will be that (most) firms will elect to forego

⁴⁸ One important private benefit of pooling is that it generates an increase in earnings-based management compensation (Aboody et al., 2000). Note that the private benefit accrues to the firm managers, but the private cost, if the share repurchase (now cancelled) would have been firm value increasing, is borne by the shareholders. Another private benefit of pooling, which is also shared by shareholders, is the creation of 'instant earnings' (Ayers et al., 2002) through the inclusion under the pooling method, of target earnings into group earnings from the start of the acquisition year. This may benefit shareholders if the share market is fixated on reported earnings numbers, or if the increase in group earnings puts the company into a more favourable position in relation to the accounting-based terms contained in its debt covenants. Note that the managers may also suffer some private cost from foregoing value-increasing proposed share repurchases to the extent that they own ordinary shares in the company.

share repurchases in order to retain pooling. Weber (2004) also argues that the results are supportive of the view that additional effective restrictions on the use of pooling will benefit shareholders but at the expense of managers. Lastly, the share price reaction around the date where the market first learns that the firm has elected to retain pooling is significantly negative. The extent of the observed reaction is positively related to both the financial statement impacts of pooling and the expected benefits of share repurchases. Taken together, the results indicate that managers have a preference for pooling and that shareholders perceive the use of pooling impose costs which are in excess of any benefits that they receive.

Weber's (2004) findings strongly indicate that the purchase-pooling accounting dichotomy, as it existed in the US between 1970 and 2000, was an accounting area where opportunistic and value-destroying behaviour by managers seemed to be commonplace but left largely unchecked by regulators and capital market participants. The negative share market response to the introduction of SAB 96 and the later additional negative response when the market learns that pooling will be retained suggest that, in the purchase-pooling choice, opportunism is a primary driving force behind observed accounting choices.

In particular, the three-fold choice to (a) proceed with the merger, (b) retain pooling, and (c) desist from changes in real activities in the post-merger period (namely share repurchases and asset divestitures) seems to be opportunism driven. The reason that efficiency considerations are unlikely to be the motive is that changes to real activity appear to be the direct consequence of the accounting method selected. Where efficiency considerations predominate (e.g., Zimmer, 1986), investing, financing, and accounting policies are jointly determined.

2.5 Summary

This chapter has outlined the main empirical findings for the area of accounting for acquired goodwill. Walkling and Edmister (1985) and Nathan (1988) find a negative association between acquired goodwill and bid premium. They argue that the sign of the association can be explained by the removal of inefficient management and low replacement cost of assets hypotheses. Robinson and Shane (1990) find that higher mean bid premiums are paid when the pooling method of acquisition accounting is used, rather than the purchase method. Choi and Lee (1991), Lee and Choi (1992), Dunne and Ndubizu (1995), and Cheng et al. (1997) find that higher mean bid premiums are paid when the acquirer is from a country where acquired goodwill can be immediately written off against reserves, as opposed to a country where acquired goodwill is required to be capitalized and amortized. Ayres et al. (2002) find that bid premium and acquisition accounting policy (pooling or purchase) are jointly determined for a sample of stock-for-stock acquisitions made in the US between 1990 and 1996. In Australia, Anderson and Zimmer (1992) find that AASB1013 moves acquiring firms away from an efficient accounting policy, where the book value of the goodwill asset signals to the capital market the present value of expected future net cash inflows arising from the firm's investment in intangible assets, to an opportunistic choice aimed at improving key financial statement ratios.

CHAPTER 3

HYPOTHESES

3.1 Introduction

This chapter sets out and explains the rationale behind the research hypotheses which are used as the basis for the empirical analysis in the study. Section 3.2 discusses the first hypothesis, which predicts a decrease in the level of takeover bid premiums paid for Australian targets after the passage of AASB1013. Section 3.3 provides the second hypothesis, which predicts that the level of acquired goodwill balances of successful Australian target companies will decline as a result of the passage of AASB1013. The third and fourth hypotheses predict the association between goodwill and premium, and how it varies over time (pre- and post-AASB1013) respectively. They are discussed in Section 3.4. The chapter concludes in Section 3.5 with a summary.

3.2 The mean level of bid premiums paid pre- and post-AASB1013

AASB1013 mandates the capitalization of acquired goodwill and systematic amortization to the consolidated profit and loss account over the period during which the benefits are expected to accrue, which in no case may exceed 20 years. Prior to AASB1013, there was no legally enforceable accounting method for acquired goodwill arising out of a corporate acquisition. Actual accounting practices for acquired goodwill varied widely in this pre-regulation period (Gibson and Francis, 1975; Carnegie and Gibson, 1989; Goodwin and Harris, 1991).

This study argues that the *real option* to maintain accounting policy discretion in the acquired goodwill area (at, and subsequent to, the acquisition date) is a valuable one for acquiring firms. Removing this option may lead managers to reduce the takeover bid premiums that they are willing to pay, and an otherwise value-enhancing takeover may be passed up. This conjecture is based on two perspectives, as discussed below.

The *opportunism perspective* relies on the modern theory of the firm, where stakeholders have incentives to negotiate a set of contracts delineating their relationship with the firm that minimizes the total sum of agency costs and maximizes firm value.⁴⁹ These contracts include debt covenants and management compensation plans, which are often tied to key financial statement variables (Smith and Warner, 1979, p. 144).

Accounting policy choices, such as the accounting policy decisions on how to account for acquired goodwill, may impact upon the financial statement variables used to determine the entitlement of stakeholders to the firm's assets and profits under the contracts.⁵⁰ The *opportunism perspective* proposes that acquisition accounting policy discretion allows managers to select accounting policies so as to, for instance, avoid technical violation of accounting-based debt covenant terms and/or to maximize the present value of their management compensation earned under earnings-linked bonus plans.

Studies supporting the proposition that managers of acquiring firms may reduce the level of bid premiums paid in order to avoid the subsequent reduction in the present value of

⁴⁹ See Jensen and Meckling (1976, pp. 308-311, 337-339) and Smith and Warner (1979, pp. 121, 143-144).

⁵⁰ This section discusses the contracting cost theoretical framework without directly considering the additional important issues of information asymmetry and signalling.

their management compensation⁵¹ created by the goodwill amortization charge include Huang and Walkling (1987), Choi and Lee (1991), Lee and Choi (1992), and Aboody et al. (2000). The underlying rationale for this proposition is best summarised by Choi and Lee (1991, p.226): “From a management’s perspective, p^* [offer price] will be consistent with that level which optimises the discounted present value of their expected compensation stream. In the case of US acquirers, management’s reservation offering price will be constrained by the effects of amortisation of any premiums paid on the present value of their performance-based compensation. This logic appears to be the rationale underlying the conventional wisdom which says that UK companies, by not having to amortise goodwill, have an incentive to offer relatively higher premiums for an acquisition target than their US counterparts.”

Debt covenants also have a predictable and systematic impact on the choice of acquisition accounting method. For example, Crawford (1987) and Aboody et al. (2000) document that firms with higher debt to equity ratios and a higher probability to breach the accounting-based terms contained in debt contracts are more likely to choose purchase instead of pooling. Similar sentiments are echoed by Whittred et al. (2000) with regards to the mandatory accounting treatment imposed upon acquiring firms in Australia by AASB1013. They argue that the imposition of this standard has indirect cash flow consequences for acquiring firms in the form of (debt) contracting or political costs. Goodwill amortization over a maximum time period of 20 years may bring a firm closer to technical default of the accounting based covenants contained in its public and private debt contracts (for example, an interest coverage term or a dividend payout ratio term).

⁵¹ In the US, Sloan (1993) reports that as many as 99 percent of firms surveyed by Conference Board have in place some form of bonus plan. Sampson (1992) finds, however, that bonus plans are less common in Australia, with an average 11% of annual pay being based on performance bonuses, compared to the US figure of 20%.

The prospect of mandatory goodwill amortization charges, which create unfavourable financial statement effects for both the consolidated income statement and the consolidated balance sheet, may therefore lower the takeover bid premiums that managers are willing to pay. Goodwill amortization charges may also impact upon a firm's dividend policy because, under the Australian Corporations Law, since replaced by the Corporations Act 2001, dividends may only be paid "out of profits" (Whittred et al., 2000; Chan and Loftus, 2003).⁵²

The second perspective is based on *information-signalling*. Here, acquisition accounting policy discretion allows managers to select accounting policies so as to communicate (or signal) to the capital market the future net cash inflows expected from the firm's investments in intangible assets (Anderson and Zimmer, 1992; Coombes et. al., 1997; Tan, 2001). Because of the separation of ownership from control in the modern corporation, an important issue that arises is information asymmetry. This can be defined as a situation where one contracting party knows more information about the true probability distribution of expected future cash flows across all possible states of nature than does the other contracting party.

In the modern corporation, information asymmetries exist between managers and capital providers (shareholders and creditors). Professional managers (company insiders) have

⁵² s.254 of the Corporations Law, since replaced by the Corporations Act 2001, states that dividends may only be paid out of *profits*. The term *profit* is not defined in the Corporations Law and the courts have been unwilling to define it precisely (Lipton and Herzberg, 2000). Definition of the term has typically been left to the internal management of a company. However, s.338 of the Corporations Law indicates that it is possible for an accounting standard to be inconsistent with the Corporations Law, with the accounting standard only being valid to the extent that there is no inconsistency. One definition of profits for the purpose of s. 254 was provided by Lockhart J in the case *QBE Insurance Group Ltd. Vs. ASC* (1992) 10 ACLC 1490 where he stated: "The meaning of the word 'profits' is for the courts to determine. But the identification of what in relation to the affairs of a particular company constitutes its profits is determined by the courts with close regards to the views of the accountancy profession. The courts are influenced by professional accountancy bodies and men of business and the evidence of accountants is given great weight by the courts".

superior information about the probability distribution of expected future cash flows across all possible states of nature (of which only one will be actually realised ex post) across all future time periods. Where capital market participants perceive that there are severe and unresolved information asymmetries, shareholders will be especially wary of trading in the share market with a trader who might have superior inside information about the firm's current condition and future prospects. This means that the *bid-ask spread* (a common measure of share market liquidity) will be higher than what it would have been had the perceived information asymmetries been at a lower level (Lee et al., 1993; Bartov and Bodnar, 1996; Boone and Raman, 2001). In that case, potential sellers require a higher price to sell their shares, while potential buyers are willing to buy in only at a much reduced price. The consequence of this is that trading in the firm's shares will be *thinner* (fewer trades will take place over a given time interval) unless and until the information asymmetry problems can be resolved to the satisfaction of all the contracting parties.⁵³

If managers make no attempt to signal that expected future cash flows are higher than the market's current expectations, then capital providers are unable to distinguish ex ante the high quality firms from the low quality ones (relative to current expectations). This means that, following Akerlof (1970), all high quality firms will sell at the price that rightfully pertains only to the low quality firms (or more correctly, the 'average' price). In other words, the capital market participants will price-protect themselves.

⁵³ This is an extrapolation of Akerlof's (1970) classic market for lemons model. In the used car market where we might expect there to be severe and unresolved information asymmetries in that the car dealers know in advance the quality of the cars, whereas the customers do not know but can only hazard a guess, Akerlof (1970) argues that consumers will price-protect themselves and that the good cars will only sell at the bad car price. One solution to this problem is for car dealers to *signal* car or dealer quality, e.g., through some form of external third-party certification in a way that will reassure customers that the chance of buying a good car from a good dealer is reasonably high ex ante.

This provides managers who possess inside information about superior earnings prospects with a strong incentive to separate themselves from the rest by signalling their high quality to capital market participants. There are many ways that this can be done, including changes in dividend policy, capital structure policy, corporate governance policy, and accounting policy.

The signal that is of primary interest to this thesis is goodwill accounting policy. Specifically, acquiring firm managers could signal higher expected future net cash inflows expected from their investment in intangible assets through the adoption of a policy of capitalization without amortization for their acquired goodwill and identifiable intangible asset balances (Anderson and Zimmer, 1992; Coombes et al., 1997; Tan, 2001; Boone and Raman, 2001). If, at a later time, these same managers wanted to signal that expected future cash flows were now reduced, they could do this through either an immediate once-off write-down of their intangible assets, or an increase in the rate of systematic amortisation applied to those assets.

For signalling of quality in any business context to be effective and credible over time, a signalling mechanism must be able to operate in such a way that a false and misleading signal is costly to the signaller. If this is not the case, there is nothing to prevent insiders with negative inside information about quality to erroneously transmit a signal that their ex ante quality is high. Therefore, a false ex ante signal given by goodwill accounting policy might be costly because once information about reduced future cash flows became available to capital market participants ex post, the adoption of an aggressive (i.e., non-conservative) accounting policy for intangible assets in those prior accounting periods could leave the firm and its auditors exposed to legal action and/or investigation by the

national securities regulator, which in Australia is ASIC. In addition, the firm, its management, and its auditors are liable to suffer a loss of long-term reputation capital.

All this suggests that an ex ante false signal of expected future cash flows, through the means of acquired goodwill accounting policy choice, imposes costs and that therefore a true signal, through the same accounting policy choice mechanism, is likely to be regarded as credible by capital market participants and to be acted upon by them. Free choice over accounting for goodwill makes it possible to communicate inside information.

When accounting policy choice in the post-AASB1013 period is artificially limited to only one acceptable accounting policy, this prevents acquiring firm managers from signalling expected future cash inflows to the capital market via this particular mechanism. The value lost by the removal of this real option is likely to be a positive and increasing function of the acquired goodwill balance of the successful target firm (Choi and Lee, 1991; Anderson and Zimmer, 1992; Coombes et al., 1997; Tan, 2001). By contrast, where the acquired goodwill balance of the target firm is immaterial in amount, we would expect that the users of the financial statements would be less interested in the outcome of the capitalization versus capitalization/ amortization policy choice decision.

Bradley et al. (1988) document that total expected future economic benefits to be gained from corporate acquisitions, including the accounting-related benefits, accrue primarily (80%) to the shareholders of the *target* firm. Since the market for corporate control involves the competition among bidder firms for the benefits to be obtained from an acquisition, including the accounting-related benefits (Jensen and Ruback, 1983), it follows that the accounting-related benefits (or loss of accounting-related benefits) should

be reflected in the bid premiums paid. A reduction in the benefits associated with a takeover, arising from the artificial restrictions on accounting choice imposed by AASB1013, will result in a commensurate reduction in the level of bid premium paid by the successful acquirer.⁵⁴ This leads to Hypothesis H1, which can be stated as follows:

H1: The mean (median) level of bid premiums paid to acquire successful Australian targets is significantly lower in the post-AASB1013 period.

3.3 The mean level of acquired goodwill pre- and post-AASB1013

The second hypothesis is based on the conjecture that the imposition of only one acceptable accounting treatment for goodwill under AASB1013, i.e., capitalization and mandatory systematic amortization over a maximum time period of 20 years, may impact upon the market for corporate control in terms of the choice of target companies. That is, in the post-AASB1013 period, where there is an artificial restriction on accounting policy choice in the acquired goodwill area, bidders will exhibit a systematic preference for targets with lower acquired goodwill balances.

The rationale for this hypothesis is that the reduction in accounting-related benefits associated with the passage of AASB1013 is assumed to be an increasing function of the target's acquired goodwill balance (Choi and Lee, 1991). The higher the acquired goodwill balance, the larger (a) the mandatory amortization charges created by

⁵⁴ One may possibly argue (based on the results of event study research which finds that, *on average*, target firm shareholders gain and bidder firm shareholders do not lose in takeovers) that "a fall in bid premium means that bidders have benefited". However, this thesis maintains that this gain is more than offset by the value of the real option lost due to AASB1013. Further, if bid premiums were to fall after AASB1013 (as H1 predicts), some marginally profitable takeovers now may no longer take place due to the offer price being too low to be accepted by target firm shareholders. If a marginally profitable takeover does not occur this leads to a loss in bidder firm value. The loss is an opportunity loss, not an actual decline in bidder value unless the share market thought pre-bid that the takeover would occur.

AASB1013 and the incremental reduction in earnings-based management compensation; (b) the mandatory amortization charges created by AASB1013 and the incremental increase in the probability of technical violation of an accounting-based term in a debt contract; and (c) the value of the real option to signal expected future cash flows arising from the acquired goodwill through a capitalization without amortization accounting policy.

If the reduction in accounting-related benefits is an increasing function of the acquired goodwill balance of the target and managers rationally pursue and select potential target companies based on the synergistic benefits that the acquisition will create, including the accounting-related benefits, then it follows that in the post-AASB1013 period there will be a reduction in the average acquired goodwill balances of the successful target companies. Recent studies that provide important empirical support for this proposition are Cheng et al. (1997) and Ayres et al. (2002). This leads to hypothesis H2, which is specified as follows:

H2: The mean (median) acquired goodwill balance of successful Australian targets is significantly reduced in the post-AASB1013 period.

3.4 The association between acquired goodwill and bid premium pre- and post-AASB1013

The third hypothesis takes into account the interactive effect of time period (pre- and post-AASB1013) and acquired goodwill on the takeover bid premium. It is stated as follows:⁵⁵

H3: Relative to the pre-AASB1013 period, in the post-AASB1013 period the bid premium is less significantly related to the acquired goodwill of the successful target.

The rationale underlying Hypothesis H3 is that AASB1013 completely eliminates the value of the real option. In the post-AASB1013 period, acquired goodwill numbers are no longer able to be used by acquiring firm managers to signal (communicate) to the capital market the future net cash inflows expected from the firm's investment in its intangible assets (the *information-signalling perspective*). As a result, in the post-AASB1013 period, the acquired goodwill should be less significantly related to the bid premium.

Implicit to Hypothesis H3 is Hypothesis H4:

H4: There is a significant relationship between bid premium and acquired goodwill of the successful target.

The literature provides indirect support for this hypothesis. Due to problems associated with the empirical measurement of *acquired* goodwill (see Chapter 4), the market-to-book

⁵⁵ Research papers that use an interactive cross-product term as an integral part of their research design are Lefanowicz, Robinson and Smith (2000) in the takeovers/ finance corporate literature, Aboody et al. (2000) in the economic consequences of pooling literature, and Basu (1997) in the earnings conservatism literature.

ratio is commonly used to proxy for acquired goodwill as it is an intuitive measure. Acquired goodwill is an increasing function of market-to-book ratio because companies with high market-to-book ratio ratios need to amortize a larger amount, which reduces the consolidated income further in post-acquisition years.

Walkling and Edmister (1985) and Nathan (1988), for example, argue and find a significant and negative association between the market-to-book ratio and the bid premium. Their main argument is based on the *removal of inefficient management hypothesis*, which predicts that where there are prior management inefficiencies, the market value of the target's equity will be low relative to the book value of equity⁵⁶ (and thus acquired goodwill). Competition for such targets among rival bidding firms operating within a competitive market for corporate control will ensure that a negative association exists between the market-to-book ratio and bid premium.

In the US institutional context, as it existed between 1970 and 2000 (inclusive), Robinson and Shane (1990) argue that there is an *accounting effect*, which supports a positive association between acquired goodwill and bid premium. The rationale for the *accounting effect*, as argued by Robinson and Shane (1990), is that under the pre-specified criteria contained within APB Opinion No. 16,⁵⁷ target management support for the bid must be

⁵⁶ One problem in using the market-to-book ratio is that it could be capturing the effects of one or more theoretical constructs other than prior inefficient management. These include the presence of growth options, i.e., options to undertake profitable follow-on investment opportunities (Myers, 1977; Wong and Wong, 2001), and the extent of aggression versus conservatism in accounting policy choices of the target firm.

⁵⁷ Under the rules of the then extant US accounting standard APB Opinion No. 17: *Intangible Assets* (1970), the earnings penalty created by systematic goodwill amortisation charges under the purchase method of accounting is a positive and increasing function of the successful target's MB ratio. However, under the sister accounting standard APB Opinion No. 16: *Business Combinations* (1970), where 12 pre-specified criteria are met, the successful bidder can opt to use the pooling method of acquisition accounting, in place of the purchase method, and so avoid completely the post-acquisition systematic goodwill amortisation charges. It can be seen that the accounting-related benefits associated with the pooling choice are a positive and increasing function of the successful target's MB ratio.

gained in order that the pre-specified criteria can be met (Nathan, 1988; Robinson and Shane, 1990). To gain target management support, it is clearly necessary to offer a higher bid premium. Given that the accounting-related benefits of pooling are a positive and increasing function of the market-to-book ratio, it follows that the *accounting effect* present in the US market between 1970 and 2000 (inclusive) supported (*at that time and in that market*) a positive association between the market-to-book ratio and the bid premium. However, this accounting effect will not occur in Australia during this study's sample period (1981 to 2000 inclusive) because, under Australian accounting standards, pooling has never been a valid accounting option. As a result, no extra bid premium would ever need to have been paid in Australia to secure the right to pool from target management.

Therefore, it is felt that for the present study no unambiguous prediction can reasonably be made as to the expected sign of the association between acquired goodwill and the bid premium. In testing the above hypotheses, various determinants of the takeover bid premium, as suggested by theory, and confirmed in at least some of the prior papers in the empirical literature, are controlled for. These are discussed in the next chapter.

3.5 Summary

This chapter sets forth four hypotheses, which attempt to describe, in precise terms, how AASB1013 may have impacted upon the mean (median) level of bid premiums paid for successful Australian targets (H1), the mean (median) level of acquired goodwill balances purchased in Australian takeovers (H2), and the association between acquired goodwill and the bid premium (H3/H4). The rationales for the hypotheses are agency theory

(Jensen and Meckling, 1976; Whittred et al., 2000), and, more specifically, the theory of accounting policy choice (for example, see Watts and Zimmerman (1978, 1986, 1990)).

If the research hypotheses of this study are supported, it will indicate that changes in accounting regulations which artificially restrict the set of accepted accounting policies do impact in systematic and predictable ways upon management actions (Anderson and Zimmer, 1992).

A significant result for Hypothesis H1 would indicate that the ability of acquiring firm managers to communicate (signal) to the capital market the expected future net cash inflows from investment in intangible assets is a valuable *real option* (the *information-signalling perspective*), and that, when removed, the bid premiums offered by successful acquirers are systematically lower to reflect the commensurate loss of accounting-related benefits (Jensen and Ruback, 1983; Crawford, 1987; Bradley et al., 1988). It has been argued in this chapter that the extent of the loss of accounting-related benefits is an increasing function of the acquired goodwill balance of the successful target firm (Choi and Lee, 1991). It has also been argued that if bid premiums across the market as a whole fall post-AASB1013, this will mean that some value-creating takeovers will now no longer occur and bidder firm value will be significantly reduced as a result.

CHAPTER 4

RESEARCH METHOD

4.1 Introduction

This chapter outlines the research methods used to test the hypotheses set out in Chapter 3. It begins with an outline of sample selection criteria in Section 4.2. Section 4.3 presents the basic regression model and the measurement of the main test variables is provided in Section 4.4. Section 4.5 outlines the control variables and how they are measured. Descriptive statistics for the final sample are discussed in Section 4.6, and Section 4.7 concludes.

4.2 Sample Selection Criteria

The initial sample includes all companies with successful takeovers from 1 January 1981 to 31 December 2000. To be included in the final sample, firms are required to meet the following conditions:

1. The bidder owns less than 50% of ordinary voting shares prior to the bid and not less than 50% after the bid⁵⁸ (Bugeja and Walter, 1995; Cheng et al., 1997; Henry, 2004).⁵⁹

However, if the bidder did effect consolidation despite having gained less than 50% of

⁵⁸ This ensures that there is a valid transfer of control (Cheng et al., 1997, p. 47), and that consolidated accounts are prepared by the acquirer in the acquisition year. Without the preparation of consolidated accounts, there is no goodwill on consolidation asset. This criterion also means that ‘mopping up operations’ (where a bidder owning more than 50% of target shares chooses to increase its holdings through a subsequent bid) is excluded from the sample. Casual inspection of Thomson Financial SDC Platinum Takeovers Database (1990-2000) indicates that a sizeable percentage of successful takeover bids made during the sample period are mopping up operations.

⁵⁹ By way of comparison, Henry (2004) defines a ‘successful takeover’ as one where the bidder gains more than 50% of the target company’s voting shares or, in the presence of minimum acceptance conditions, the minimum acceptance conditions are met.

the target's shares, the takeover is included in the sample. One such example is Wesfarmers Limited, which consolidated Bunnings Limited in its 1992 annual accounts, even though its 1992 bid secured only 46% of Bunnings Limited's ordinary voting shares (Wesfarmers Limited, 1992). The relevant approved accounting standard AASB1024: *Consolidated Accounts* (1990), since replaced by AASB127: *Consolidated and Separate Financial Statements*, establishes 'control' as the fundamental criterion in deciding whether or not an acquiring (investor) company should consolidate an acquired (investee) company, for accounting purposes, in its group accounts;⁶⁰

2. The required share price and accounting data are available;
3. Neither the target nor the bidder is engaged wholly or completely within the mining industry. This is to ensure homogeneity in sample firms since mining companies have significantly different operating, investing, and financing characteristics from industrial companies (Bugeja and Walter, 1995);
4. The offer is not a partial one, i.e., it is an offer for all of the company's outstanding ordinary shares other than those already owned by the acquirer;⁶¹ and

⁶⁰ Percentage of share ownership is only a guide to whether or not control exists. The control requirement for consolidation is consistent with the on-going preference of the Australian Accounting Standards Board for a principles-oriented framework for accounting regulation. This preference is often contrasted with the rules-based orientation of the FASB in the US. The FASB's consolidation standard, consistent with the rules-based approach, relies on ownership interest rather than control as the primary criterion to consolidate a subsidiary. Many prominent international commentators including Head of IASB, Sir David Tweedie, hold that major corporate collapses like Enron and World Com could have been avoided had principles-based accounting standards such as the IASB standards applied in the US. Sir David gained much political mileage for the IASB in its quest to be the world's most influential standard-setting body with comments such as these in 2002 (Haswell and McKinnon, 2003, p. 13).

⁶¹ Early studies on the determinants of takeover bid outcome (success or failure), e.g., Pelligrino (1972), Ebeid (1974), and Hoffmeister and Dyl (1981) find no association between bid premiums and takeover outcome. Walkling (1985) argues that this is due to the fact that the initial bid premium should be computed from the initial release of takeover information (which may precede the actual announcement date), and that proper adjustment should be made for the pro-rata effect of partial offers. This study avoids any necessity to adjust for partial offers by excluding them from the final sample.

5. The target is an ASX-listed company as at the takeover announcement date. The bidder may be unlisted or foreign.⁶² Deals involving foreign bidders are included where the mandated acquired goodwill accounting policy in place in the bidder's home country is the same as the mandated acquired goodwill accounting policy in place (as at the same date) in Australia.

These sample selection criteria result in 261 successful takeover announcements, being 127 in the pre-AASB1013 period (1 January 1981 to 30 June 1987) and 134 in the post-AASB1013 period (1 July 1987 to 31 December 2000). In the pre-AASB1013 period, one bid involving a Malaysian bidder is included. In the post-AASB1013 period, nine bids involving foreign bidders are included (six US, one Japan, one UK, and one Netherlands). Systematic amortization of consolidated goodwill is mandatory in the US, Japan, and the Netherlands from 1988 to 2000, and in the UK after 1997. It is however not mandatory in Malaysia during the 1981 to 1987 period (Nobes and Parker, 1998, pp. 72-75, 147, 259).⁶³

⁶² This is the same criterion as that adopted by Henry (2004).

⁶³ In the US, APB Opinion No. 17: *Intangible Assets* (1970) requires amortization over a maximum period of 40 years where the purchase method (rather than pooling) is used as the acquisition accounting policy. In Japan, a reporting entity must amortize consolidated goodwill by systematic charges to the consolidated profit and loss account over its 'useful economic life' (Nobes and Parker, 1998, p. 259). Amortization normally follows the period for non-consolidation goodwill, i.e., over not more than five years. In some cases, amortization is performed over only one year. There are plans (as at 1998) to extend the maximum allowed amortization period in Japan to 20 years. In the UK, FRS10 (1997) requires capitalization and systematic amortization of purchased goodwill to the profit and loss account, with the *rebuttable presumption* being that the economic benefits associated with the goodwill last no more than 20 years. FRS10 removes the immediate write-off to reserves option, which is permitted under the predecessor UK accounting standard SSAP No. 22 (1984, rev. 1989). Malaysia is the only country in the South East Asian region, as at January 2000, to adopt the International Accounting Standards Board (IASB) set of standards wholesale as its own national set of accounting standards (Nobes and Parker, 1998, p. 75; Chamisa, 2000, p. 274). The original version of IAS22: *Business Combinations* (1987) allows the options of immediate write-off of goodwill against equity reserves within the acquisition year, or capitalization and systematic amortization to the profit and loss account over a finite time period (consistent with SSAP22 in the UK). Only the revised version of IAS22 (revision date: November, 1993) mandates capitalization and systematic amortization as the required method. Thus, the goodwill accounting regime in place in Malaysia between 1981 and 1987 is essentially an unregulated one, as is the case in Australia during the same time period. See Appendix B for goodwill accounting in other countries.

The foreign bids included in the final sample are (i) the Malaysian bid from Sime Darby Berhad for Mortlock Brothers Limited (announcement date: 28 October 1985); (ii) the Japanese bid from Toyota Motor Corporation for York Motors (Holdings) Limited (announcement date: 30 July 1987); (iii) the US bids from Campbell Soup Company Inc for Arnotts Limited (announcement date: 12 October 1992); Case Corporation Inc for Austoft Holdings Limited (announcement date: 16 February 1996); Illinois Tool Works Inc for Azon Limited (announcement date: 24 June 1996); Merrill Lynch & Co. Inc for McIntosh Securities Limited (announcement date: 12 November 1996); General Electric Company Inc for Loscam Limited (announcement date: 11 February 1997); and Babcock and Brown Inc for Carillon Development Limited (announcement date: 19 June 2000); (iv) the Dutch bid from Royal PTT Nederland NV for TNT Limited (announcement date: 2 October 1996); and (v) the UK bid from Guinness Peat Group Plc for Joe White Maltings Limited (announcement date: 8 September 1999).

Takeover data (e.g., takeover announcement date, target firm name, bidder firm name, offer consideration, and percentage of shares sought and obtained through the bid) from 1984 onwards were retrieved from the Australian Stock Exchange's (ASX) 'Annual Stock-Market Summaries', The Australian Financial Review's 'Weekly Takeovers' section, and the Thomson Financial SDC Platinum Takeovers Database. Prior data (from 1981 to 1984) were obtained from the Financial Analysis Publication 'Takeovers in Australia – 1900 to 1998'. This publication provides only the takeover announcement month, rather than the actual announcement date. Annual report data were extracted from the Australian Graduate School of Management (AGSM) annual report microfiche series (1984 to 1993, inclusive) and the Connect-4 database (1992 to 2000, inclusive). Share price data were taken from The

Australian Financial Review. Information on the direct and beneficial share ownership of the target firm directors is located in either the Directors' Report, Notes to the Accounts or Additional Shareholders Information (ASI) sections of annual reports.⁶⁴ The final sample size in the study compares favourably with the 79 companies used in Robinson and Shane (1990), and the 185 companies used in Ayres et al. (2002).⁶⁵

Table 4.1 provides a breakdown of the final sample by GICS Industrial Classification (Panel A)⁶⁶ and by calendar year of the first acquisition announcement date (Panel B). Panel A shows that close to 40 percent of target firms come from the materials sector. The rest is roughly evenly distributed across the diversified financials (15%), food beverage and tobacco (11%), real estate (8%), and media (5%) sectors. Panel B shows that about 70 percent of the sample takeovers occurred in the 1980s, with the proportion peaking in 1981 and 1985 (about 10 percent in each of those years). In comparison, the 1990s, and especially the first half of that decade, appear to be a 'quieter' period for takeover activity by sample firms.

This decline in the takeover rate in the early 1990s (i.e., in the period immediately following the issuance of AASB1013 in 1988) could be regarded as "indirect and descriptive support" for the study's Hypothesis H1, i.e., that the mean and median level of bid premium decline in

⁶⁴ Approved accounting standard AASB1017.4.16 (Related Parties), since replaced by AASB124: *Related Party Disclosures*, states that the financial report must disclose the aggregate number of shares, units, options, and other equity-related instruments held by directors directly, indirectly, or beneficially at the reporting date. s.300 (11) of the Corporations Law, since replaced by the Corporations Act 2001, also requires that directors' 'relevant interests', as defined in s.608(1), in shares be disclosed in annual reports.

⁶⁵ The sample size in Ayers et al. (2002) is for their regression analysis, and excludes influential observations identified using the procedures in Belsley et al. (1980). The Robinson and Shane (1990) sample size is for their regression analysis using the DPREM measure of bid premium, and it excludes those acquisitions paid for by the issue of preference shares, as well as three influential observations excluded from all of their regressions.

⁶⁶ A Global Industry Classification Scheme (GICS) industry classification is assigned to each listed company by Standard and Poor's. The Australian Stock Exchange (ASX) official website currently (accessed 4 December 2004) assigns each ASX-listed company with one and only one GICS industry classification.

Australia in the post-AASB1013 period. However, it is unwise to draw any definite conclusions in relations to this issue, because there are so many other non-accounting related factors that could be contributing to these changes in the takeover rate.

In terms of goodwill accounting policies actually adopted by Australian companies prior to AASB1013, Gibson and Francis (1975) survey the reporting practices for goodwill for the year 1974 by public companies listed on Melbourne Stock Exchange (MSE). Two hundred and seventy three companies responded to the survey and 88 of these companies had made an accounting policy choice concerning acquired goodwill in their most recent consolidated financial statements. Gibson and Francis (1975) report a wide diversity of accounting practice in this unregulated period, thus supporting the argument that the option to choose goodwill accounting policy is a valuable one for acquiring firms. The most common accounting practices observed by Gibson and Francis (1975) are immediate write-off against consolidated reserves (33 out of 88 or 37.5%), immediate write-off against consolidated profits, (16 out of 88 or 18.2%), periodic write-offs against consolidated profits, i.e., capitalization with systematic amortization (14 out of 88 or 15.9%), periodic write-offs against consolidated reserves, (8 out of 88 or 9.1%), write-offs at the directors' discretion against consolidated reserves, and write-offs at the directors' discretion against consolidated profits. Thus, the accounting method later prescribed by AASB1013 was only adopted of their own volition by 16% of MSE listed public companies in 1974.

Table 4.1: Distribution of sample takeovers by GICS industry classification (Panel A) and by Year of takeover announcement (Panel B), n=261.

	Frequency	Percentage
Panel A: By GICS Industry Classification		
Materials	99	37.93
Diversified Financials	38	14.56
Food Beverage & Tobacco	29	11.11
Real Estate	21	8.05
Media	12	4.60
Insurance	10	3.83
Retailing	9	3.45
Consumer Durables & Apparel	9	3.45
Automobile & Components	7	2.68
Hotels Restaurants & Leisure	4	1.53
Other	23	8.81
Panel B: By Calendar Year of First Takeover Announcement Date		
1981	25	9.58
1982	18	6.90
1983	19	7.28
1984	17	6.51
1985	26	9.96
1986	19	7.28
1987	22	8.43
1988	20	7.66
1989	15	5.75
1990	4	1.53
1991	4	1.53
1992	8	3.07
1993	5	1.92
1994	3	1.15
1995	6	2.30
1996	11	4.21
1997	7	2.68
1998	11	4.21
1999	15	5.75
2000	6	2.30
Total	261	100.00

A Global Industry Classification Standard (GICS) industry classification is assigned to each listed company by Standard and Poor's. The Australian Stock Exchange (ASX) official website currently (accessed 4 December, 2004) assigns each ASX listed company with one GICS industry classification.

So, if our sample of pre-AASB1013 acquirers is relatively representative of the whole population of listed companies (and there is no reason to assume that is not the case), then we might expect the percentage of acquirers in our pre-AASB1013 sample to have voluntarily adopted capitalization and systematic amortization to be around 16%, which is the percentage figure reported in Gibson and Francis (1975). However, this figure may be understated, since the professional standard AAS18: *Accounting for Goodwill*, which mandated capitalization and systematic amortization, was in place with first application in 1984.

The reason for inclusion of such companies (i.e., those that adopted the mandated rule of AASB1013 in the pre-AASB1013 period) in the sample is that this sub-sample of pre-AASB1013 acquirers still maintained the option to freely choose goodwill accounting policy, i.e., their choice to adopt the rule later mandated by AASB1013 was a voluntary one. As such, they still retained the ability to use variations in goodwill accounting policy to signal expected future net cash inflows from the goodwill asset to the capital market. These companies may have thought that the amortization rate of 5% imposed by the rule later implemented in AASB1013 would best represent the expected future rate of decline of their goodwill asset.

I feel that these companies should be retained in the pre-AASB1013 sub-sample because the aim of the thesis is to document the effects on bid premium and acquired goodwill of the removal of the real option (by AASB1013) to use goodwill accounting policy choice to signal future net cash inflows. Considerable thought was given as to whether these companies should be retained in the pre-AASB1013 sub-sample but, given the specific nature of the research question, it was decided that the best approach was to retain these companies.

4.3 The Regression Model

The basic regression model consists of the excess bid premium as the dependent variable. The independent variables are a period dummy (taking on the value of one for a post-AASB1013 acquisition, and zero otherwise), acquired goodwill, and a goodwill interactive term. The latter is the product of acquired goodwill and the period dummy. The regression takes the following form:

$$\text{PREMIUM}_{it} = a_0 + a_1\text{POST87}_{it} + a_2(\text{GWILL}*\text{POST87})_{it} + a_3\text{GWILL}_{it} + e_{it} \quad \dots (1)$$

where for firm *i* at time *t*, PREMIUM is the bid premium; POST87 is the time period dummy variable that takes on the value of one for a post-AASB1013 acquisition, and zero otherwise; GWILL is acquired goodwill; and e_i is the residual term. Eq. (1) is the same basic regression model developed by Robinson and Shane (1990) and Choi and Lee (1991), and used again in Lee and Choi (1992). The next section discusses how each of these variables is measured and its expected sign.

4.4 Variables Measurement

4.4.1 Bid Premium

The dependent variable, bid premium, is computed using the ‘excess’ or market-adjusted return measures. The raw return, which equals the offer price (or revised price) minus the target’s pre-acquisition market share price measured at the commencement of the month prior

to the takeover announcement month, divided by the target's pre-acquisition market share price measured as at that date, is first computed. This is the metric used by Henry (2004)⁶⁷ and Ayers et al. (2002), who measure bid premium as the percentage premium paid over the target company's market share price measured four weeks and 40 days prior to the takeover announcement date, respectively. To get the excess return measure, the returns on the All Ordinaries Accumulation Index (the market return) accumulated over the same window as the bid premium is deducted from the raw return measure. Excess returns are used since they have the advantage of producing significantly less 'noisy' estimates of the bid premium which are not influenced by movements in the market index.

The use of the revised and not the initial offer price ensures that the bidder's reaction to managerial resistance/acceptance of the bid is accommodated within the bid premium (Ayers et al., 2002). The revised offer price is also adjusted for dilution effects due to dividends since it incorporates the bidder's response as the shares go ex-dividend during the bid period. In Australia, formal bid revisions are not an unusual occurrence during the bid open period. For a random sample of 400 successful Australian takeover announcements between 1991 and 2000, Henry (2004) reports that one third had at least one such revision. His findings show that bid premium and offer price revisions can influence the bid outcome.

The rationale for using the pre-acquisition market share price as a deflator, in place of the book value of net equity per share, in computing the excess bid premium stems from Christie (1987). Christie (1987) notes that the market price per share as at the beginning of a period is

⁶⁷ However, Henry's (2004) study is an attempt to document the determinants of the takeover outcome (success or failure). In his model bid premium is an explanatory variable, not the dependent variable.

the natural deflator in ‘returns’ studies where the dependent variable is constructed as a measure of returns or unexpected returns. It is also consistent with the deflation procedure used in most of the prior studies reviewed in Chapter 2 (Walkling and Edmister, 1985; Nathan, 1988; Robinson and Shane, 1990; Cheng et al., 1997).⁶⁸

Scaling the excess bid premium by pre-acquisition market price per share allows a meaningful comparison to be made of mean and median bid premiums across studies. A comparison of mean bid premiums across studies should yield valuable insights into how bid premiums vary with the acquisition accounting method and the reporting country. In terms of variation by acquisition accounting method, Robinson and Shane’s (1990) results for pooling targets can be reasonably compared with this study’s results for the pre-AASB1013 sample (no mandatory goodwill amortization required in either case), while Robinson and Shane’s (1990) results for purchase targets can be reasonably compared with this study’s results for the post-AASB1013 sample (mandatory goodwill amortization required).⁶⁹

For robustness, the target’s pre-acquisition market share price is measured at three distinct dates in the takeover bid process: (i) at the commencement of the announcement month (PREMIUM0); (ii) at the commencement of the month prior to the announcement month (PREMIUM1); and (iii) at the commencement of the month two months prior to the announcement month (PREMIUM2).⁷⁰ Therefore, the three alternative versions of the excess

⁶⁸ See Chapter 2. However, Choi and Lee (1991) and Lee and Choi (1992) deflate goodwill by book value of net equity per share

⁶⁹ Note, however, that the purchase and pooling methods differ along other lines than simply the mandatory amortization of the acquired goodwill balance. See Ayers et al. (2002) for a full discussion of the differences.

⁷⁰ Choi and Lee (1991) and Lee and Choi (1992) measure excess bid premium using the target’s pre-acquisition market share price as at the end of the last trading day prior to the takeover announcement date. However, it is not possible to do this as the “Takeovers in Australia” book used by this study to locate takeover announcements

bid premium have different lengths of ‘price run-up’ incorporated into their definition, as shown in Table 4.2.

Table 4.2: Various measures of the dependent variable (bid premium)

Bid Premium Measures	Measured As
PREMIUM0	Offer price (or revised price) minus the target’s pre-acquisition market share price measured at the commencement of the takeover announcement month, divided by the latter, all minus the market returns accumulated over the same returns window as the bid premium.
PREMIUM1	Offer price (or revised price) minus the target’s pre-acquisition market share price measured at the commencement of the month prior to the takeover announcement month, divided by the latter, all minus the market returns accumulated over the same returns window as the bid premium.
PREMIUM2	Offer price (or revised price) minus the target’s pre-acquisition market share price measured at the commencement of the month two months prior to the takeover announcement month, divided by the latter, all minus the market returns accumulated over the same returns window as the bid premium.

A methodological problem associated with the PREMIUM1 and PREMIUM2 versions of the dependent variable is that the accounting data taken as at the end of the financial year prior to the announcement date, and used to compute acquired goodwill and (various) control variables, are no longer strictly pre-bid data. For financial year ends close in time to the announcement date, these observations have accounting data measured during, rather than before, the returns window (time period) over which the respective excess bid premium measures are accumulated. This is more likely to be problematic the longer the time period over which the price run-up is accumulated. However, although this is a bona fide methodological concern, its practical consequences are likely to be small since there usually is

and bid terms (1981 to 1984 inclusive) specifies only the takeover announcement month, not the actual announcement date. Unlike the actual announcement day, using the announcement month has fewer data errors.

a passage of time (a few months) between the takeover announcement date and the final bid outcome date. As a consequence, for all practical intents and purposes, the financial statement data are likely to bear the characteristics of pre-bid data.

Where the consideration paid is ordinary shares rather than cash, the recommendations of Taylor (1987) are followed. The offer price for each target share is computed in these cases by multiplying the ‘swap ratio’ (the number of bidder shares exchanged for each target share) by the bidder’s share market price as at the commencement of the takeover announcement month.⁷¹

4.4.2 Acquired Goodwill

The problem with acquired goodwill is that it is difficult to measure empirically. Acquired goodwill is defined in AASB3 (replacement standard for AASB1013), Appendix A as: “future economic benefits arising from assets that are not capable of being individually identified and separately recognised” (Leo et al., 2005, p. 259).

Choi and Lee (1991) note that, traditionally in accounting, at the date of a business combination, acquired goodwill is calculated as a residual. That is, purchased (acquired) goodwill is measured as the fair value of purchase consideration exchanged (the final offer price multiplied by the number of shares acquired) minus the fair value of the identifiable net

⁷¹ Where the consideration is partly or wholly debt instruments or preference shares in the bidder, the value is taken to be the par (face) value of these securities.

assets (equity) acquired of the target company.⁷² Both the fair value of the purchase consideration and the fair value of the identifiable net assets acquired are measured as at the effective date of the acquisition (as defined in accounting standards).

However, this study does not measure acquired goodwill this way because to do so may induce a spurious positive auto-correlation between acquired goodwill and the excess bid premium. This is due to the fact that the excess bid premium is itself a direct and increasing function of the (revised) offer price (Choi and Lee, 1991, p. 238).⁷³

An alternative way of computing acquired goodwill is to take the purchased goodwill numbers directly from the bidder's first post-acquisition set of consolidated financial statements. The data source here would be the 'details of acquisitions' footnote which is linked to either the Cash Flow Statement (for financial years 1992 and following) or to the Controlled Entities' footnote. However, simply observing the change in Gross Goodwill (pre-accumulated amortisation) on the balance sheet from one year to the next would not be helpful because, in the vast majority of cases, more than one subsidiary company is acquired during any given year. In addition, the Gross Goodwill numbers are influenced by the disposal of subsidiaries,

⁷² For empirical purposes, goodwill could possibly be deflated by either the pre-acquisition market value of target equity, the book value of net equity acquired per share (Choi and Lee, 1991; Lee and Choi, 1992), or by total assets per share (Cheng et al., 1997), or by another appropriate deflator. Such deflation would not change the economic meaning of the term.

⁷³ One other possibility is to take the purchased goodwill numbers directly from the bidder's first post-acquisition set of consolidated financial statements. However, doing this would create difficulties in obtaining data as some sample bidders are unlisted or foreign companies. A bid could only be included in the sample, under this scenario, if both target and bidder financial statements are available, and this procedure would further reduce the sample size. Other problems include (a) the fact that goodwill acquired is often disclosed only as a total figure for all subsidiaries acquired in a year; (b) for other companies, it is often not clear whether the "net assets acquired" figure, specified in footnotes on a per acquisition basis, is stated before or after re-statement to fair values of the identifiable net assets acquired; and (c) the use of goodwill acquired as per the bidder's first post-acquisition consolidated financial statements would not avoid the problem of serial correlation of acquired goodwill with bid premium. In fact, it would exacerbate the problem. Choi and Lee (1991, p. 223) also indicate this data collection option to be not feasible.

and are reduced by the full amount of the Gross Goodwill for each acquisition in the year that complete amortisation of the acquisition-specific goodwill asset occurs.

Using the ‘details of acquisitions’ footnote in the bidder’s post-consolidation financial statements as the goodwill data source would also create difficulties. There would be difficulties involved in accessing data sources because some bidder firms are unlisted or foreign companies. A bid could only be included in the sample, under this goodwill data collection procedure, if both target *and* bidder financial statements are available for the bid in question. This goodwill data collection procedure (if it had been adopted) would lead to a significant reduction in the final sample size, especially for those years in the 1980s where the only financial statement data source is the AGSM Annual Reports Microfiche Series.

Other problems associated with use of the ‘details of acquisitions’ footnote in the bidder’s post-consolidation financial statements to collect goodwill data are as follows: (a) the fact that ‘goodwill acquired’ is often disclosed only as a total figure for all subsidiaries acquired during the year, rather than being delineated on a per-acquisition basis; (b) for other companies, it is often not clear whether the ‘net assets acquired’ figure, specified in footnotes on a per acquisition basis, is stated before or after re-statement of the identifiable net assets acquired to their fair values; and (c) the problem of spurious positive auto-correlation of acquired goodwill with bid premium is not avoided (Choi and Lee, 1991, p. 238). In fact, the problem would be exacerbated if goodwill data are taken directly from the bidder’s post-consolidation financial statements because these very goodwill numbers are computed using fair value of the purchase consideration exchanged, and the bid premium is also computed using the same number. Choi and Lee (1991, p. 223) also considered this option of collecting goodwill data

directly from the bidder's post-consolidation financial statements, but decided that the option is not feasible.

In this thesis, the acquired goodwill variable is measured in a similar way to Nathan (1988), Choi and Lee (1991) and Cheng et al. (1997), except for the deflator. That is, acquired goodwill (GWILL) is computed as the pre-acquisition target market price per share minus the book value of target net equity per share, deflated (divided) by the pre-acquisition target market price per share. Rearranged, acquired goodwill is measured as 1 minus the book-to-market ratio. This measure of acquired goodwill is therefore positively related to the market-to-book ratio. This makes sense because the future benefits from unidentifiable assets increase the market price but, because the assets are unidentifiable, they are excluded from all book value computations.

Deflating acquired goodwill by pre-acquisition target market share price, and not by pre-acquisition target book value of net equity (Choi and Lee, 1991; Lee and Choi, 1992) or by total assets per share (Cheng et al., 1997), results in less extremely large values for acquired goodwill created by low values for reported book equity. This deflation procedure is expected to significantly lower the positive skewness and standard deviation of the resultant acquired goodwill sampling distribution.⁷⁴ It is also in the spirit of Christie (1987) on the choice of deflator in 'returns' studies, as noted above.

⁷⁴ However, it does create negative skewness. The maximum possible value for acquired goodwill using pre-acquisition market price per share as the deflator is 0.99, i.e., the value for acquired goodwill as the book value of equity approaches zero. This issue is discussed further in Chapter 5.

There are three measures of acquired goodwill, corresponding to the three measures of the excess bid premium, as shown in Table 4.3. For example, where PREMIUM0 is the measure of excess bid premium adopted, the corresponding measure of acquired goodwill (MV_GWILL0) is computed as the pre-acquisition target market price per share as at the commencement of the takeover announcement month, minus the book value of target net equity per share measured as at the end of the prior financial year, divided by the former.

4.4.3 Period Dummy

The period dummy (POST87) aims to capture non-goodwill related reasons, such as the occurrence of other economically significant events, which may cause a structural shift in bid premiums in 1987. It takes a value of one for bid announcements occurring after 1 July 1987, and zero otherwise. One such significant event is the October world market crash in that year, which may have fundamentally altered the market for corporate control, by a structural shift, related to a change in investor confidence and perceptions.

Table 4.3: Measurement and notations of independent variables

Explanatory Variables	Denoted By	Measured As
Acquired Goodwill	MV_GWILL0	The target's pre-acquisition market share price at the commencement of the takeover announcement month, minus the book value of the target's equity (net assets) per share as at the end of the prior financial year, divided by the target's pre-acquisition market share price.
	MV_GWILL1	The target's pre-acquisition market share price as at the commencement of the month prior to the takeover announcement month, minus the book value of the target's equity (net assets) per share as at the end of the prior financial year, divided by the target's pre-acquisition market share price.
	MV_GWILL2	The target's pre-acquisition market share price as at the commencement of the two months prior to the takeover announcement month, minus the book value of the target's equity (net assets) per share as at the end of the prior financial year, divided by the target's pre-acquisition market share price.
Period Dummy	POST87	A dummy variable that takes a value of one for bid announcements occurring after 1 July 1987 (i.e., post-AASB1013) and zero otherwise.
Tax Losses	T_LOSS	The carry-forward recognized tax losses of the target divided by the book value of target net equity.
Note Disclosed Tax Losses	TL_NOTE	The carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity.
Mode of Payment	CASH	Takeover announcements that involve (100%) cash consideration take a value of one and zero otherwise.
Bidder Ownership Managerial Ownership Prior Target Return	Prior TOEHOLD	The bidder's pre-bid percentage ordinary share ownership in the target.
	Share DIROWN	The percentage of managerial ordinary share ownership in the target.
	Stock RETURN1, RETURN2, and RETURN3	The one, two, and three year prior target excess stock returns arising from a buy and hold strategy which is terminated two months prior to the takeover announcement month respectively.
Target Firm Size	(SIZE)	The target's market value of common equity (share price multiplied by the number of shares outstanding) at the commencement of the takeover announcement month.
Diversified Financials Industry	FINANCIALS	Dummy variable that takes the value of one if the target firm is in the Diversified Financials industry and zero otherwise.
1988-90	1988-90	Dummy variable that takes a value of one for takeover announcements occurring during the period 1988 to 1990 and zero otherwise.
1991-97	1991-97	Dummy variable that takes a value of one for takeover announcements occurring during the period 1991 to 1997 and zero otherwise.
1998-2000	1998-2000	Dummy variable that takes a value of one for takeover announcements occurring during the period 1998 to 2000 and zero otherwise.

The first full financial year for Australian companies that includes the impact of the crash was the year ending June 30 (1988). Since the worldwide stock market crash occurred at around the same time as the first-time adoptions of AASB1013, significant t-statistics on the variables of interest could be erroneously attributed to the goodwill accounting standard, when in reality one or more of the other events is largely responsible. As in Choi and Lee (1991), this study makes no prediction about the sign of the coefficient for POST87.

This study expects a significant coefficient on the goodwill interactive term, which is acquired goodwill multiplied by the period dummy term (GWILL*POST87), for the reasons set out in the discussion leading to Hypothesis H3. It is expected that there will be a significant change in the association between acquired goodwill and bid premium as a result of the restrictions imposed upon goodwill accounting policy choice by AASB1013.

4.5 Control Variables

An expanded version of equation (1) includes control variables that may have an influence on the bid premium. It could be that the acquired goodwill and interactive goodwill terms are highly correlated with other non-goodwill related explanatory variables. If this were the case, the interactive goodwill or acquired goodwill coefficients may appear to be significant determinants of the bid premium, but in reality it is the other non-goodwill variables that drive the results. This is the classic ‘omitted variables problem’, which has been discussed extensively in the accounting policy literature, and in particular in Watts and Zimmerman (1990) and Wong and Wong (2001). Every attempt is therefore made in this study to identify, isolate, and control for possible confounding influences which may be correlated with any of

the included explanatory test variables. The list of control variables, and a description of the measurement rule adopted, is provided in Table 4.3.

4.5.1 Tax Losses (*T_LOSS*)

One determinant of bid premium that is non-goodwill related is the amount of carry-forward tax losses of the target (*T_LOSS*). To the extent that the successful bidder is able to access the target firm's carry-forward tax losses through the bid, the excess bid premium will be influenced by the presence of such losses (Brealey, Myers, Partington and Robinson, 2000). These carry-forward tax benefits may not be fully factored into the target's pre-acquisition market share price. The reason for this could be that a return to profitability in the near future under the target's extant management is regarded by the capital market as being relatively doubtful. This is despite the belief of the target directors that the future recoupment of the tax losses is "virtually certain".⁷⁵

A positive association is expected between *T_LOSS* and the excess bid premium since there might be a higher probability of recognized tax losses being recouped more quickly under the

⁷⁵ Under Australia's Income Tax Assessment Act (1997, ITAA), a domestic tax loss may be carried forward indefinitely and deducted from a taxpayer's taxable income in succeeding years (ITAA97 Div. 36; section 36-1 to section 36-45). A company may only carry forward tax losses if it passes either the 'continuity of ownership test' (section 165-12) or the 'continuity of business test' (section 165-13). The former requires that shares carrying more than 50% of voting, dividend, and capital rights be beneficially owned by the same persons throughout the time from the start of the loss year to the beginning of the income (recoupment) year. This test would not be met for most of the takeovers included in this sample as the bidder's ownership percentage would be below 50% in the loss (pre-bid) year and typically greater than 90% in the income (post-bid) year. However, the continuity of business test (section 165-13) may still be passed even where the continuity of ownership test is failed. A company passes the continuity of business test where it carries on the same business in the income year as it did immediately prior to the change in ownership. This does not require that the business be identical but that the essential character of the business does not change (CCH Australia, 2001, pp. 62-63). A dramatic change in the nature of the business through either further acquisitions by the bidder or losses of activities might also mean that the continuity of business test is failed.

bidder's management than under the target's pre-bid management. Presumably, the high recognized tax losses are due to prior inefficient management.⁷⁶ To access the incremental tax loss benefits which can be secured through a takeover bid, rival bidders may offer a higher bid premium in an attempt to secure these benefits for their own shareholders.

However, it is important to note that, because the target's management regard the future recoupment of the tax loss benefits as "virtually certain",⁷⁷ the probability of future recoupment may not be significantly increased if the acquiring firm gains a majority control of the target firm's shares. If this is the case, the coefficient on this variable should be insignificant since the probability of the recoupment of the tax losses under either management (target or bidder) will be already fully factored into the target's pre-acquisition market share price.

Beaver and Dukes (1972) and Rayburn (1986) find a significant negative association between share returns and changes in deferred tax liability balances. This means that the market perceives deferred tax liabilities as representing future cash outflows. Chaney and Jeter

⁷⁶ This is consistent with the extant takeover literature, which regards the removal of inefficient management as one of the primary motivations for a takeover bid (Walkling and Edmister, 1985; Nathan, 1988; Ayres et al., 2002, pp. 18-19).

⁷⁷ Under approved accounting standard AASB1020: *Tax Effect Accounting: Accounting for Company Income Tax* (prior to its recent revision and reissue), an FITB arising from a tax loss cannot be recognized as a non-current asset in the balance sheet unless the future realization is regarded as "virtually certain". This is the case throughout the period covered by this study. The version of AASB1020 published in the *Commonwealth of Australia Gazette* on 9 December 1999, first applying to financial years ending on or after 30 June 2003, allows for the recognition of an FITB arising from tax losses (now renamed as a 'deferred tax asset', or DTA) in a company's accounts where its future realization is "probable" (paragraph 7.3.10). This is the same test that applies to the recognition of DTA created by temporary (timing) differences (paragraph 7.3.3). These definitions make the recognition criteria consistent with those set out for all assets in Statement of Accounting Concepts (SAC) 4 of the Australian Conceptual Framework. Problems with the application of the virtual certainty test in practice had become evident by the early 1990s, when the Australian Securities Commission (in its 1993 and 1994 annual reports) noted that it had placed this issue on its list of financial reporting items in need of most urgent attention (Cotter et al., 1998).

(1994) find that the negative association observed in these early studies is weaker when changes to the deferred tax balance are the result of recurring timing differences, i.e., timing differences that do not clearly reverse.⁷⁸

Givoly and Hayn (1992) examine share returns around the release of the 1986 Tax Reform Act in the US (which reduced the corporate tax rate from 46% to 34%), and find that the share price changes around the proposal and passage of the Act are related both to the magnitude of the deferred tax liability balance and the expected timing of reversals. After controlling for risk and growth in the deferred tax liability balance, firms with the largest balances are found to exhibit the largest positive share price performance around the proposal and passage of the Act.

Amir and Sougiannis (1999) find that analysts use information on carry-forward tax loss assets in making their earnings forecasts. Specifically, they find evidence of a ‘measurement effect’ (reduced future taxes mean higher future after-tax profits) as well as an ‘information effect’ (carry-forward tax losses mean that future pre-tax profits are potentially less favourable). They find that analysts’ estimates of the present value of expected future abnormal earnings are higher when there are carry-forward tax losses.

In this study, T_LOSS is measured as that part of the Future Income Tax Benefit (FITB) of the target derived from tax losses (not timing differences) recognized in the target’s balance sheet

⁷⁸ Timing differences (renamed as ‘temporary differences’ under the revised (1999) version of AASB1020) create deferred tax assets and deferred tax liabilities under tax-effect accounting. Timing differences emerge whenever an item of revenue or expense is recognized for accounting purposes in a different period from the period in which it is assessable as assessable income or deductible as an expense under the income tax legislation. In theory, all timing differences reverse, by definition, but in practice this is often not the case.

as at the end of the financial year prior to the takeover announcement date, divided by the book value of the target's net equity as at the end of that prior financial year.

4.5.2 Note Disclosed Tax Losses (TL_NOTE)

TL_NOTE indicates that part of the FITB created by tax losses and not by timing differences, which is not recognized in the balance sheet of the target firm⁷⁹ as at the end of the financial year prior to the takeover announcement date, divided by the book value of the target net equity as at the end of that prior financial year. Although this portion of the FITB is not permitted to be recognized, AASB1020 requires the dollar amount to be disclosed in the notes to the accounts and allows it to be used to reduce any extant balance in the Provision for Deferred Tax Liability (DTL) account.

This study predicts a positive association between TL_NOTE and the excess bid premium based on the same arguments outlined for tax losses above. The coefficient on TL_NOTE is also expected to be larger and more significant than that on T_LOSS because of the higher probability of speedy recoupment of tax losses under the bidder's management (than under the target's management) where the future tax loss recoupment is not regarded by the target management as being virtually certain.

⁷⁹ FITB is not recognized because its recoupment in future time periods is not regarded as being virtually certain.

4.5.3 Mode of Payment (CASH)

Mode of payment (cash or shares) is an explanatory variable frequently used as an explanatory for bid premium in the takeovers literature. The US evidence shows that the use of cash, as opposed to ordinary shares in the acquirer, as the mode of payment is typically associated with higher bid premiums (Wansley, Lane and Yang, 1983; Huang and Walkling, 1987;⁸⁰ Schwert, 2000; Lefanowicz et al., 2000) and a higher probability of a successful outcome (Sudarsanam, 1995⁸¹).

This is due to three potential reasons. First, share offers are disadvantageous to the bidder since they tend to take longer to process and are therefore more likely to lead to management resistance and/or attract the attentions of a rival bidder. As a result, bidders are willing to pay more to secure the relative advantages of a cash based bid.

The second reason is based on the *pecking order theory* of Myers and Majluf (1984), which states that firms are more likely to issue ordinary equity when their shares are over-valued, than when they are either correctly valued or under-valued. As a result, bids that involve share payments are likely to be less well received by the target firm shareholders. A logical consequence of this is that the acquiring firm management prefers to make a higher cash bid, instead of a share bid, so as to increase the probability of the bid being successful, and to

⁸⁰ Huang and Walkling (1987) report average abnormal returns of 29.3% for cash offers, 14.4% for stock offers, and 23.3% for mixed (cash and shares) offers. They argue that their results are consistent with the tax-based explanation for higher abnormal returns accruing on average to cash bids.

⁸¹ Given that Walkling (1985), Franks and Mayer (1996), and Holl and Kyriazis (1996) find that the probability of a successful outcome is positively associated with the bid premium, Sudarsanam's (1995) finding can also be regarded as equivalent to a finding of a higher bid premium for cash-based bids.

speed up the takeover completion process. A cash bid is usually regarded as indicative of the bidding firm viewing the target as of 'high value' (Fishman, 1989).

Third, in the US, share-for-share exchanges do not attract capital gains tax, whereas cash-based bids do attract the tax. As a result, where cash is the form of consideration, target shareholders will need to be compensated for the incremental capital gains tax in the form of a higher (cash) bid premium (Huang and Walkling, 1987, p. 348).

However, the Australian evidence shows no significant association between the cumulative abnormal returns (bid premiums) earned by Australian target firms around takeover announcement dates and the mode of payment (Da Silva Rosa et al., 2000). The mode of payment is also not a significant determinant of the probability of a successful takeover outcome in Australia (Henry, 2004). One reason for the contrasting evidence in Australia vis-à-vis the US is the deferral of capital gains tax associated with share-for-share exchanges in the US. There is no capital gains tax reason in Australia to prefer either cash or share based bids prior to 10 December 1999 (Henry, 2004, p. 427). This 'tax neutrality' period incorporates all but one year of the present study's sample period.

Given the conflicting empirical evidence presented here, this study makes no prediction about the sign of the association between the excess bid premium and the mode of payment dummy variable. CASH takes a value of one for cash only bids and zero for all 'other' bids including bids financed by ordinary shares only, cash plus ordinary shares, ordinary shares plus debt or preference shares, debt or preference shares, and cash or ordinary shares. The last four categories of bids are referred to in the literature as 'mixed' bids.

4.5.4 Bidder Prior Ownership (TOEHOLD)

The proportion of target's shares held by the bidder in the pre-bid period, coined as "toehold" in the takeover literature, can significantly reduce the bid premium, and is therefore controlled for in this study's empirical tests. The literature offers several explanations⁸² why this is so, and they are discussed at length in Walkling and Edmister (1985), Robinson and Shane (1990), Bugeja and Walter (1995), and Ayres et al. (2002).

First, where the bidder has a sizeable initial (pre-bid) proportionate shareholding, there is likely to be less information content in the bid as the target is required to inform the ASX, on a continuous disclosure basis, of any changes to the identities of their substantial shareholders.^{83,84} The pre-acquisition share price is expected to have already factored in the

⁸² These arguments are not inconsistent with Henry's (2004) findings that both bid premium and toehold are both positively associated with the probability of a successful outcome. It is felt that the usual positive association between bid premium and the probability of a successful outcome would become much weaker and might even reverse at high levels of toehold. A reversal of the sign to negative would not be an encouragement to bidders to pay a lower premium in order to increase their chances of a successful outcome. It would indicate that high toeholds indicate higher levels of bidder entrenchment and that this effect would lead to high toeholds being associated with both a higher probability of success and a lower (not higher) bid premium. The discussion in this footnote indicates that it can be unwise to place too much emphasis on univariate results derived from a comparative statics approach which ignore the dynamics of takeover strategy and the takeover process.

⁸³ Under s. 671B(1) of the Corporations Law, since replaced by the Corporations Act 2001, shareholders with a 'relevant interest' in not less than 5% of voting shares in a listed company are required to provide the company and the securities exchange with full particulars of their holdings. Information must be provided if the holder ceases to have a substantial holding, there is a movement of more than 1% in their holdings, or the holder launches a takeover bid. The required information must be given to the company within two days after the holder became aware of the information (Lipton and Herzberg, 2000). Under Part 6C.2, section 672A to section 672F of the Corporations Law, since replaced by the Corporations Act 2001, the company and the Australian Securities and Investment Commission (ASIC) have the right to obtain information as to the identity of persons having a relevant interest in voting shares. The ASX Listing Requirements must also be adhered to by listed companies, in addition to the requirements of the Corporations Act 2001. ASX Listing Rule 4.10 sets out the minimum content requirements for listed companies' annual reports. Two of these requirements are that the names of substantial shareholders and the number of shares over which each has an interest be disclosed.

⁸⁴ There have been mandatory requirements to disclose details of substantial shareholders and changes to substantial shareholdings throughout the duration of this study's sample period, which is from 1981 to 2000. As at 1980, the relevant rule requiring listed companies to disclose the contents of their register of substantial shareholders is the then Australian Associated Stock Exchanges (AASE) Listing Requirements Rule 3C (3E) (Acmil Limited, 1980). The definition of a substantial shareholder applying to Victorian companies as at August

probability of a future bid by one of its incumbent substantial shareholders. Consequently, the resulting percentage bid premium, when it is paid, will be lower because it is computed using a higher base amount. Second, having an initial shareholding in the target means fewer blocks of shares will be held by rival shareholders prior to the bid. Therefore, a higher bid premium will not need to be paid in order to buy out rival bidders or recalcitrant minority shareholders.⁸⁵ A negative association between toehold and bid premium is also supported by the theoretical model of Bris (2002), which predicts that the ratio of the pre-bid price run-up to the bid premium will be an increasing function of the toehold.

Empirical support for a significant negative association between the bidder's initial (pre-bid) proportionate shareholding in the target and bid premium is provided by Walkling and Edmister (1985), Eckbo and Langohr (1989), Jarrell and Poulsen (1989), Robinson and Shane (1990), Bugeja and Walter (1995), and Ayres et al. (2002).⁸⁶ Using a dynamic model of the takeover process, Betton and Eckbo (2000) analyse the average joint impact of bid premium, target shareholder tender pre-commitment and payment method, under all potential

1980 is contained in s. 69C of the Victorian Companies Act 1981 as amended (Rocla Industries Limited, 1980). Similar definitions would have applied at the time within the legislation of the other Australian states. Substantial shareholder information which must be disclosed includes the name(s) of substantial shareholder(s) and number of ordinary voting shares held beneficially or non-beneficially by them as at the date of the substantial shareholder notice.

⁸⁵ In Australia, hostile bids are frequent. The presence of a substantial shareholding by one industrial company in the share registry of another industrial company would usually signify the likelihood of a later hostile bid by that substantial shareholder. Apart from a formal takeover bid, the takeover provisions of the Corporations Act 2001 in Australia allow a 'creeping takeover' by the purchase of not more than three percent of ordinary voting shares every six months. A substantial but not controlling stake by one industrial company in another without the prospect of a takeover bid is often penalized by the Australian share market. An example of this is Futuris Corporation Limited's long-held 21% stake in the listed Orica Limited subsidiary, Incitec. This stake could not be sold through regular trading on the ASX due to the thin-trading in the company's shares. (Around 3,000 Incitec shares trade daily across Australia.) Early in 2003, Orica bought back all of the Futuris-held Incitec shares in a private deal, which saw the share prices of both companies climb on the day when finalization of the deal was announced.

⁸⁶ Contrary findings are Franks and Harris (1989), who report a positive association between toehold and bid premium, and Stulz, Walkling and Song (1990), who report a zero association. Henry (2004) finds that the probability of a successful takeover outcome in Australia is positively and significantly associated with the toehold.

combinations of takeover process settings and outcomes. They find that toeholds tend to be largest for successful, single-bid contests (on average, 20%), and by contrast smallest for multiple-bid hostile contests (on average, 5%).

Simultaneous equations show that a negative association exists between toehold and bid premium, supportive of the comparative statics results presented in the earlier studies of Shleifer and Vishny (1986) and Hirshleifer and Titman (1990). Consistent with the predictions of the theoretical model of Bulow, Huang and Kiemperer (1999), the results demonstrate that, in the case of multiple bidders, both bidders tend to have similar toeholds. Significant advantages appear to accrue to bidders as a result of obtaining a toehold. However, despite this, only 47% of all initial bidders begin the bidding process through a toehold acquisition.

In this study, TOEHOLD is measured as the bidder's proportionate share ownership (toehold) as at the end of the financial year that immediately precedes the takeover announcement date, or at the date attached to the ASX Additional Shareholders Information (ASI) section of the last annual report.⁸⁷ The ASI is also the data source for bidder's prior share ownership. All holdings in partly-paid ordinary shares, preference shares, debt instruments, and options on ordinary shares are excluded from the calculation. Where there are share issues made between the balance date and the date of the ASI, the denominator of TOEHOLD is adjusted in order to

⁸⁷ A study of annual reports indicates that the date attached to the ASI section of annual reports is on average usually around three months after financial year end. s.319(3)(b) of the Corporations Law, since replaced by the Corporations Act 2001, states that annual reports must be lodged with the ASIC within four months after year end. Most Australian companies have a 30 June financial year end date. The percentage of companies adopting a 30 June year end date has probably increased over the period 1981 to 2000, but this study is unaware of any documentation on this.

reflect this.⁸⁸ Where the date of the ASI (but not the date of the financial year end) is after the takeover announcement date, this date is still used to compute TOEHOLD as long as the level of bidder ownership remains less than 50% as at that date. If the bidder's ownership is 50% or more, then the previous year's ownership information is used. The advantage of this decision rule is that as many data points as possible can be retained for the estimation of this variable.

4.5.5 Interaction of Toehold and Acquired Goodwill (GWILL* TOEHOLD)

The toehold variable is also multiplied by acquired goodwill to create an interactive variable, (GWILL*TOEHOLD). This interactive variable measures whether at a high level of bidder prior ownership there is a systematic change in the slope of the association between acquired goodwill and the excess bid premium. This study predicts a negative sign on this interactive variable, which means that high levels of bidder prior ownership reduce more rapidly the extent to which upward increments in acquired goodwill are paid for.

At high levels of bidder prior ownership, the slope of the association between acquired goodwill and the excess bid premium is expected to change to become either more negative, or less positive. This expected finding could be due to a less competitive market for corporate control operating where toeholds are high, and hence less willingness on the part of acquiring firms to pay more for incremental increases in acquired goodwill. This is because there is no longer a need to signal its value to relatively less informed capital market participants (vis-avis

⁸⁸ Details of new share issues made between the balance date and the date of the Directors Report can sometimes be found in the Chairman's Address, Review of Operations, or the 'Events Subsequent to Balance Date' footnote in the financial statements. Alternatively, the number of issued shares on hand at the date of the ASI can be calculated very easily using the total number and total percentage of the shares owned by any or all of the top 20 shareholders stated in the ASI (a required disclosure requirement under ASX Listing Rule 4.10). This number can then be compared to the total number of issued ordinary shares existing at balance date.

the case where toeholds are low). This interactive variable has not been a feature of any prior study on the determinants of the takeover bid premium.

4.5.6 Managerial Share Ownership (DIROWN)

Agency theory predicts that higher levels of managerial ownership can better align the interests of shareholders and managers, and thus provide an incentive for managers to increase firm value. The pre-acquisition share price of high agency cost firms is low, the bid premium is expected to be high, all else equal. This is reflective of the fact that firm value can most likely be increased under the bidder's management, as agency costs are progressively reduced. In a competitive market for corporate control, rival bidders will compete for the right to manage the target firm resources, and secure these incremental value gains for their shareholders. In order to access the incremental value gains connected with control, the successful bidder will pay a higher bid premium.

The US evidence supports a positive and significant association between managerial ownership and bid premium (e.g., Ayres et al., 2002), but not the Australian evidence (Bugeja and Walter, 1995). Indirect support for this association is also provided by past findings of a positive association between managerial ownership and the probability of a successful takeover outcome (Song and Walkling, 1993; Duggal and Miller, 1994; O'Sullivan and Wong, 1998, 1999). However, Henry (2004) finds no significant association between director ownership and the probability of a successful takeover outcome in Australia. This study makes no prediction as to the expected sign on the association between DIROWN and the excess bid premium.

Following Bugeja and Walter (1995), DIROWN is measured as the sum of the target directors' share ownership, direct and beneficial, divided by the total number of target firm issued ordinary voting shares measured as at the same date. All directors are treated in the same way, regardless of whether they are executive, non-executive, independent or alternate. Director interests in partly-paid ordinary shares, preference shares, non-voting shares, debt instruments, and options on ordinary shares are routinely excluded from the totals for directors' shares.⁸⁹

The number of directors shares as at financial year end is measured at the date of the Directors Report or at the ASI date, which is usually around three months after financial year end, depending on which section of the annual report includes the director shareholding information.^{90, 91} If there are share issues made between the balance date and this date, the denominator of the DIROWN variable (number of issued ordinary shares) is adjusted to reflect this. Usually, there is only a small alteration in the number of issued shares between the financial year end date and the later date, and this frequently occurs due to the exercise of executive share options. Where the sum of the target directors direct and beneficial share ownership is greater than the number of the target's issued ordinary shares, the DIROWN

⁸⁹ It could be argued that this variable more correctly should be referred to as 'director ownership', rather than 'managerial ownership' as it does not consider the share ownership of any member of the management team who is not a director. However, the variable name managerial ownership has been retained so as to be consistent with the prior literature.

⁹⁰ As an example, in the 30 June 1980 annual report of Containers Limited, director shares are listed as at 21 July 1980 while the date of substantial shareholder notices is 10 September 1980 (Containers Limited, 1980). For NKS Holdings Limited, director shares are listed as at 21 July 1980 while the date of the substantial shareholder notice is 16 September 1980 (NKS Holdings Limited, 1980).

⁹¹ Director shares are required to be disclosed in Australian annual reports throughout the duration of this study (from 1981 to 2000). As at 1980, details of directors shareholdings had to be disclosed in the Directors Reports of listed public companies under the then AASE Listing Rules Rule S. 3C (2) (Kencord Holdings Limited, 1980).

variable is set equal to one.⁹² There are only three observations in the final sample where this procedure was required to be performed.⁹³

4.5.7 Target's Prior Stock Returns (RETURN)

Target firms' prior stock returns, which are not a feature of most prior studies cited in Chapters 2 and 3, are included in the regression model. This is in response to the previously noted pervasive correlated omitted variables problem in accounting policy choice research (Watts and Zimmerman, 1990; Clinch, 1995; Wong and Wong, 2001). This problem is likely to be paramount in cases where an included explanatory variable is capturing advertently or inadvertently more than one underlying theoretical construct. If so, it is hard to determine which of the two underlying theoretical constructs (or both) is driving the observed significant association between the included explanatory variable and the dependent variable. One technique, often used in cases where the two underlying theoretical constructs have opposite predicted effects, is to use the reported sign on the included explanatory variable as the basis to determine which of the two theories prevails. For example, Nathan (1988) and Robinson and Shane (1990) conclude that, because the sign on their goodwill and market-to-book terms

⁹² This scenario occurs where more than one director has a beneficial interest in the same parcel of shares. This can happen, for example, where a private company or trust owns shares in the target company and more than one director (usually members of the same family) owns shares in that private company or trust. Where that is the case, the total number of shares held by the private company or trust is regarded as being beneficially owned by each one of the directors who own shares in the private company or trust. As can be seen, a scenario can emerge where the total number of ordinary shares directly or beneficially owned by directors in the target is greater than the target's total number of issued ordinary shares measured as at the same date. Because managerial ownership is a percentage measure with a lower bound of zero and an upper bound of one, the value of the managerial share ownership variable in these cases is set equal to one. There are only three observations in the final sample where this procedure was required to be performed

⁹³ These observations are Lend Lease Corporation Limited's bid for MLC Limited (announcement date: 29 May 1985), Orlando Wines Proprietary Limited's bid for Wyndham Estate Wines Limited (announcement date: 6 December 1989), and Argo Investments Limited's bid for Stoddarts Holdings Limited (announcement date: 22 April 1992).

respectively is negative, this means that the management inefficiency and replacement cost effects outweigh the accounting effect.⁹⁴

As in the above two studies, a major concern in this study is that the acquired goodwill term could be capturing more than one underlying theoretical construct. It may be capturing past management inefficiency, the presence of growth options, accounting conservatism, and/or the expected loss of accounting-related benefits associated with the passage of AASB1013 (i.e., 'the accounting effect'). For this reason, another explanatory variable, prior target stock returns, has been included in the model. This variable has been widely used in the corporate governance literature to capture past management inefficiency. It may be a better and more accurate measure of past management inefficiency than acquired goodwill or the market-to-book ratio. If so, the overall explanatory power of the regression model, i.e., the adjusted R-square, should improve. It will also help in determining whether any observed significant coefficient on the interaction of toehold and acquired goodwill is driven by past inefficient management or by other effects.

The pre-bid performance of target firms has been examined in past studies in relation to bid outcome, with evidence showing that an association exists. Only Limmack (1991) uses abnormal returns to measure prior management inefficiency. O'Sullivan and Wong (1999) use return on capital employed, while Sudarsanam (1995) uses Tobin's Q. Franks and Mayer (1996) show that targets acquired in hostile takeovers have worse pre-bid performance than those not acquired, where prior performance is measured by Tobin's Q. In addition to this,

⁹⁴ This technique will not be useful to discriminate between two hypotheses if both of the theories predict the same sign on the included explanatory variable.

successful targets have lower pre-bid abnormal returns than those that are not acquired. Franks and Mayer (1996) specifically incorporate Tobin's Q into the regression in an attempt to capture the theoretical construct of prior management inefficiency.⁹⁵ Flowing from the removal of inefficient management hypothesis, and the assumption of a competitive market for corporate control, a negative sign is expected for target's prior performance.

Three measures of prior returns are used. RETURN1 is measured as the one-year excess returns on the target firm's shares from a buy and hold strategy which concludes two months prior to the beginning of the takeover announcement month. RETURN2 and RETURN3 are, respectively, the two and three year excess returns on the target firm's shares from a buy and hold strategy which concludes as at that same date.

4.5.8 Target Firm Size (SIZE)

Firm size is a 'catch-all' variable and is thus usually controlled for in studies such as this. The larger the target firm, the higher the bid premium.

Walkling (1985), Song and Walkling (1993), Duggal and Miller (1994), Raad and Ryan (1995), Sudarsanam (1995) and O'Sullivan and Wong (1999) document a positive association between target company size and the probability of takeover success, thus supporting Henry (2004, p. 425), who states that target firm size is one of the major determinants of the

⁹⁵ Consistent with Henry (2004), Franks and Mayer (1996) measure Tobin's Q as the market capitalization of target equity divided by book value of assets, and averaged over the last two years prior to the takeover announcement date.

probability of a successful takeover outcome.⁹⁶ Extrapolating from the evidence of a positive relationship between the probability of success and bid premium (Walkling, 1985; Franks and Mayer, 1996; Holl and Kyriazis, 1996), a positive association between the bid premium and target firm size is thus expected.

Target firm size (SIZE) is the market value of the target's ordinary common equity, measured as the product of share price and number of shares outstanding, at the start of the takeover announcement month. Because the sample period in this study spans such a long time interval, from January 1981 to December 2000, it is considered that some inflation adjustment is necessary. The dollar values are thus expressed in constant December 2000 Australian dollars using the Consumer Price Index published by the Australian Bureau of Statistics.

4.5.9 Year Dummies

Apart from the worldwide stock market crash of October 1987 (already discussed above), there are the worldwide recession, which began around 1989 and ended around 1991, and the rise in the use of poison pill schemes (shareholder rights plans) by target firms in the 1980s and into the 1990s. All these events could also affect the level of bid premiums paid or acquired goodwill purchased in Australian takeovers. This study thus controls for these confounding time-determined influences through the inclusion of secular trend dummies in the regression model. The secular trend dummy variables will indicate whether there are structural shifts in the mean and median levels of bid premium over time, which are unrelated

⁹⁶ However Henry (2004) provides no theoretical rationale as to why this should be the case.

to the goodwill accounting standard. The inclusion of secular trend dummy variables follows the approach in Schwert (2000) and Ayres et al. (2002).

In relation to the potential impact of poison pills on the relative bargaining power of targets and bidders in the market for corporate control, Comment and Schwert (1995) report that the adoption of poison pills (shareholder rights plans) as a takeover deterrent by US firms began in the mid-1980s, but increased significantly during the second-half of the decade. By 1989, over 1,500 exchange-listed US firms had formally instituted poison-pill plan schemes. These plans make it significantly more difficult for a bidder to gain a majority control of a target company through the takeover bid process without the support of the target management. Comment and Schwert (1995) report that average cumulative abnormal returns to target firm ordinary shareholders (i.e., bid premiums) are positively associated with adoption of a poison pill by target management. This indicates that poison pill plans clearly shift the balance of bargaining power in takeover negotiations towards targets, and away from bidders.⁹⁷ The adoption of takeover deterrents by Australian firms on a major scale, in the years immediately following 30 June 1988 (if it occurred), could potentially explain any overall rise in mean bid premiums which might be observed in Australia. However, all available evidence indicates that the adoption of poison pill plans was much less prevalent in Australia than in the US.

Three secular trend binary variables are included in the regression equations, namely 1988-90, 1991-97, and 1998-2000. The 1988-90 trend variable incorporates the impact of the

⁹⁷ More recently, Bates and Lemmon (2003) find that target-payable fees also increase bid premiums, as well as improving deal completion rates. Target-payable fees are fees the target agrees to pay the bidder in the event that the takeover is terminated. Over 60% of all US deals had target-payable fees by 1998. Bates and Lemmon (2003) conclude that target payable fees are an efficient contracting device.

worldwide stock market crash and the world recession, while the 1998-2000 trend variable incorporates the impact of the bull market which preceded the April 2000 “tech crash” of internet and high-technology stocks. This study makes no predictions as to the signs of the secular trend dummy variables.

4.5.10 *Interaction of Cash and Acquired Goodwill (GWILL* CASH)*

An additional interactive variable aims to observe whether the underlying association between acquired goodwill and bid premium is influenced by the mode of payment. This variable allows us to compare the association between acquired goodwill and bid premium under the “base-case” scenario of pre-AASB1013 and a non-cash bid, with the association that occurs for cash bids, and for cash bids that take place in the post-AASB1013 period.

Fishman (1989) states the proposition that cash is offered for targets where the target is perceived as being of ‘high value’ ex ante. In these circumstances, the bidder desires to make cash payment so as to win target shareholder support and speed up the acquisition process. The targets for which cash is paid are less likely to be those with prior inefficient management. As a result, any negative significant association observed between acquired goodwill and bid premium for non-cash bids in the pre-AASB1013 period is likely to be reduced in significance for cash bids.

No unambiguous prediction is made as to the expected sign for this cash*acquired goodwill interactive term. However, it is expected to be statistically significant.

4.6 Descriptive Statistics

Table 4.4 reports the descriptive statistics for the dependent and independent variables for the full sample of 261 takeovers. Based on the PREMIUM1 measure of bid premium, the table shows that the average bidder pays an excess bid premium of 47% over and above the target's share price taken as at the beginning of the month prior to the announcement month.⁹⁸ The median premium paid is about 25%.

Although not reported, the mean (median) direct or raw (unadjusted) bid premium is 39% (19%) if premium is computed using the target's share price as at the beginning of the announcement month. This is much lower than the figures obtained when scaled by the target's share price at one (average = 50%; median = 27%) and two (average = 50%; median = 26%) months prior to the announcement month, presumably due to the former incorporating a shorter pre-bid price run-up.

⁹⁸ The strongest regression results are obtained using the market-adjusted version of the bid premium. Therefore, results for this version of the dependent variable are the primary focus of this chapter's discussions. The lower mean and median bid premium for the PREMIUM0 measure, when compared to the other measures, reflect the fact that the PREMIUM0 measure incorporates a shorter (by one and two months, respectively) pre-bid price run-up. By contrast, the mean and median for the PREMIUM1 and PREMIUM2 measures are relatively similar, in all aspects of their returns distributions (mean, median, standard deviation, skewness and kurtosis), which indicates that zero new information content is gained by extending the returns accumulation window back by one extra month. Similar findings are reported for the direct measure.

Table 4.4: Descriptive statistics for the final sample of takeovers (n=261), 1981-2000

	Mean	Median	Standard Deviation	Kurtosis	Skewness	Minimum	Maximum	Count
PREMIUM0	0.3779	0.1759	1.1364	59.8407	7.0982	-0.9205	12.0164	261
PREMIUM1	0.4774	0.2486	1.2966	61.2942	7.1867	-0.9269	13.1268	261
PREMIUM2	0.4699	0.2283	1.3279	63.2251	7.3430	-0.8939	13.4976	261
GWILL0	0.4531	0.0224	1.9240	35.9644	5.6507	-0.8575	15.2352	261
GWILL1	0.3804	-0.0353	1.8649	37.4190	5.7750	-0.8808	15.3014	261
GWILL2	0.3568	-0.0248	1.7603	38.1769	5.7731	-0.8238	15.4339	261
MV_GWILL0	-0.1110	0.0219	0.7416	17.9951	-3.1609	-6.0172	0.9384	261
MV_GWILL1	-0.1797	-0.0366	0.8421	25.0018	-3.8501	-7.3911	0.9387	261
MV_GWILL2	-0.1592	-0.0255	0.7161	9.5154	-2.3676	-4.6757	0.9392	261
T_LOSS	0.0058	0.0000	0.0348	139.4691	10.8427	0.0000	0.4826	261
TL_NOTE	0.0501	0.0000	0.1765	38.5669	5.7780	0.0000	1.5986	261
DIROWN	0.1787	0.0354	0.2529	1.8105	1.5930	0.0000	1.0000	252
TOEHOLD	0.0865	0.0000	0.1468	1.1707	1.5581	0.0000	0.5425	252
SIZE (\$millions)	235.954	69.0681	667.5020	65	7	1.3561	6,857.2411	261
RETURN1	-0.0528	-0.0397	0.4282	3.1238	-0.4342	-1.9337	1.4156	184
RETURN2	-0.1707	-0.1279	0.5810	4.1359	-0.5484	-3.0310	2.1161	181
RETURN3	-0.2293	-0.2423	0.6460	3.1520	0.0928	-2.8369	2.6935	174
CASH	0.7356	1.0000	0.4418	-0.8513	-1.0748	0.0000	1.0000	261
POST87	0.5134	1.0000	0.5008	-2.0126	-0.0540	0.0000	1.0000	261

PREMIUM0, PREMIUM1, and PREMIUM2 are the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of, one month, and two months prior to the takeover announcement month respectively. GWILL0, GWILL1, and GWILL2 are goodwill measures using the target's pre-acquisition market share price measured as at the commencement, one month, and two months prior to the takeover announcement month. The scale used is the book value of the target's equity (net assets) per share. MV_GWILL0, MV_GWILL1, and MV_GWILL3 are measured the same except that the target's market value of equity is used as a scale. T_LOSS is the carry-forward recognized tax losses of the target divided by the book value of target net equity. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. RETURN1, RETURN2 and RETURN3 are the one, two, and three year target's prior excess stock return. POST87 takes the value of one for a pre-AASB1013 (30 June 1987) acquisition announcement, and zero otherwise. CASH takes the value of one for a takeover announcement that involves (100%) cash consideration and zero otherwise.

These figures can be compared with the mean (median) direct bid premium of 28.72% (25.00%) reported by Henry (2004) for his random sample of 400 successful Australian takeovers announced between 1991 and 2000.⁹⁹ Not surprisingly, his mean direct bid

⁹⁹ Henry's (2004) final complete sample includes 440 successful takeovers of ASX-listed firms between 1991 and 2000. However, he further subdivides the total sample into a random estimation sample of 400 successful takeovers and a prediction (holdout) sample of 40 successful takeovers. The random sample of 400 is selected

premium is lower than that reported in this study due to the use of a shorter returns accumulation window (four weeks for Henry (2004) compared to anywhere between four and eight weeks in the present study) and/or by more influential observations being retained in the right-hand tail of the sampling distribution in this study. The latter is a likely scenario as indicated by the fact that the reported median direct bid premium in Henry (2004) is about the same as the median excess bid premiums reported here, but Henry's (2004) mean direct bid premium is substantially lower.

Focusing on the measures of acquired goodwill, Table 4.2 shows that the average acquired goodwill amount ranges from -0.1797 to -0.1110, with a median that ranges from -0.0366 to 0.0219. The negative figures indicate that target firms tend to have book value of equity that exceeds the market value of equity.

The majority of target companies appear to have negative pre-acquisition goodwill. However, all this means is that in these cases the pre-acquisition target market price per share is less than the pre-acquisition book value of net equity per share. This can be partly explained by the following factors:

- (a) frequent economic downturns, which depress the market value of equity below the book value of equity over the study period;
- (b) the widespread adoption of creative accounting techniques, which reported the book of value of equity at a value that is substantially inflated. For example in Australia upward revaluations of tangible fixed assets are permitted under Australia's approved

from the 440 total via the process of random number generation. All of the descriptive statistics from Henry's (2004) study reported in this chapter relate only to the estimation sample of 400.

AASB series of accounting standards, and this was the case throughout the duration of this study's sample period (Brown, Izan and Loh, 1992; Holthausen and Watts, 2001).

In addition, upward revaluations can be performed by company directors; and

- (c) the fact that this measure of acquired goodwill does not include the offer premium, and in the vast majority of cases, it will be a more negative (less positive) number than that reported in the bidder's first set of post-consolidation financial statements.

In relation to the last point, it is important to understand that what appears to be the widespread proliferation of negative goodwill companies in the data set (actually negative goodwill occurs more often than positive goodwill) is simply the artefact of the acquired goodwill measurement rule adopted.

Recall that purchased (acquired) goodwill, as it is defined in accounting standards, is fair value of purchase consideration exchanged minus fair value of identifiable net assets acquired. In the vast majority of cases, the fair value of purchase consideration exchanged, because it includes the offer premium, i.e., the premium needed to buy out target shareholders and gain control will significantly exceed the target's pre-acquisition market value of equity. As a result, whilst there is widespread proliferation of what appear to be negative goodwill companies in our data set, in the real world, as measured by the reported goodwill numbers in the bidder's first set of post-consolidation financial statements, negative goodwill (discount) companies will be much fewer in number, and in proportion to the total population of successful bidder companies.

When the bid premium is added the vast majority of the negative goodwill numbers will turn positive. So, for a very large number of supposedly ‘negative goodwill’ acquisitions, positive goodwill will be actually reported by the acquiring firm in its post-acquisition consolidated financial statements.

The finding of negative means for MV_GWILL also do not mean that the average economy-wide market-to-book ratio was less than 1 for any time interval during the sample period, or for the sample period as a whole. I believe that the sample companies here, being successful takeover targets, are not representative of the population of all Australian companies. If removal of inefficient management is a primary motivation for takeovers (Walkling and Edmister, 1985; Nathan, 1988), then it is expected that the book-to-market (market-to-book) ratio of successful target companies is significantly higher (lower) on average than the book-to-market (market-to-book) ratio in the economy as a whole. For this reason, the negative means for the three MV_GWILL variables (reported in Table 4.4) are not surprising to me, and I don’t believe that it warrants further investigation.

The descriptive statistics for control variables are also reported in Table 4.4. For the average target firm in the sample, directors hold about 18 percent of the shares outstanding, as indicated by DIROWN. It has a median of 4 percent and a standard deviation of 25 percent. The mean and median director ownership reported here are both substantially higher than the mean (median) of 8.8 percent (1.9 percent) reported by Henry (2004). This could be due to

differences in the study sample intervals, sampling procedures, and/or measurement rules used to compute the variable.¹⁰⁰

Bidder prior proportional ownership (TOEHOLD) has a mean value of 9 percent, a median of zero, and a standard deviation of 15 percent. This distribution thus exhibits less in-sample internal variation than does the director ownership variable. This is to be expected, since observations with a toehold exceeding 50 percent are excluded from the sample. Nevertheless, the variation in toeholds suggests that toeholds are an important part of takeover negotiation strategies (Betton and Eckbo, 2000) and that there may be significant implications for bid premium (Robinson and Shane, 1990; Ayres et al., 2002). The mean (median) toehold values reported by Henry (2004) are 14 percent (12 percent). Although not reported in Table 4.4, bidders own an average of 92.42 percent of target firms at the completion of the takeover, with a median of 98.70 percent. The minimum post-takeover ownership of the target shares by bidder firms is 46 percent, and the maximum is 100 percent.

The recognized tax loss assets variable (T_LOSS) is deflated by the target's pre-acquisition total book value of equity measured as at the end of the last financial year prior to the takeover announcement date. This variable has a mean (median) of less than one percent (zero), reflecting the fact that recognized tax loss assets are typically low relative to the book value of equity. There is considerable variation in T_LOSS, as shown by the standard deviation (3 percent) and range (0 to 48 percent).

¹⁰⁰ Although Henry (2004) does not provide a detailed description of his variable definition, it is possible he does not count multiple times those instances where different directors both/all own separate beneficial interests in the same parcel of target shares. If this parcel of target shares is counted only once in such cases, total director holdings is substantially lower than if the parcel is counted multiple times.

Similar to T_LOSS, the note disclosed tax loss asset variable (TL_NOTE) data points tend to be small in magnitude when expressed as a percentage of the total book value of equity. Its mean (median) value is 5 percent (0). However, relative to T_LOSS, TL_NOTE has a higher average and median. This indicates a certain amount of inherent conservatism on the part of target firm managers in that, where tax loss assets are high, in absolute dollar value, they are more likely to be only note-disclosed, rather than balance sheet recognized.¹⁰¹ The standard deviation for TL_NOTE is 0.18, which indicates that there is more inter-sample variation in this variable than for the recognized tax loss asset (T_LOSS) variable. Interestingly, the maximum value is 1.60, which indicates that, for at least a few observations in the sample, the note-disclosed tax loss assets are so substantial that they exceed the firm's total book value of equity measured as at the same date. The minimum value is zero.

The target's prior stock returns have been used in the takeovers literature to proxy for prior management inefficiency (Limmack, 1991). All the three measures of prior share performance reported in the table have negative mean and median values, demonstrating that sample target companies underperformed the market (proxied by All Ordinaries Accumulation Index) in the period leading up to the takeover announcement month. For example, the statistics on RETURN1 shows that the average (median) target firm has a share price performance that is -5.28 (-4) percent below the market (proxied by All Ordinaries Accumulation Index) over the one year period that ends two months prior to the beginning of the takeover announcement month. Although not shown in the table, nearly 50 percent of all target companies in the final sample outperformed rather than underperformed the market

¹⁰¹ This runs contrary to the concerns expressed by ASIC in the 1990s that the 'virtual certainty' test in the then AASB1020 was being abused by Australian managers (Cotter et al., 1998).

index over the one year period that ends two months prior to the beginning of the takeover announcement month.

Whilst the median for prior returns is negative, “nearly 50%” (but not exactly 50% or more than 50%) of target firms *outperform* the market prior to the bid. This sentence means (as applied to RETURN1) that, because (i) the negative median for RETURN1 is near zero and (ii) the standard deviation for prior target returns is large, then (logically this must be the case) there are “nearly 50%” of target firms which *outperform* the market prior to the bid. This fact does not negate the overall conclusion that the negative means and medians for prior stock returns support the removal of inefficient management hypothesis for the data set taken as a whole.

The average target firm has average market capitalisation (SIZE) of A\$236 millions. SIZE has a median of A\$69 millions and it ranges from A\$1.356 million to A\$68,572 millions. The standard deviation of \$668 millions indicates a huge variation in the size of target firms in the sample. In comparison, the sample firms are substantially larger than those in Henry (2004), who reports a mean market value of equity of A\$193million. This difference may be due to the different sampling intervals and data sources used. This study uses data from the AGSM Microfiche Series and Connect 4, whereas Henry (2004) uses The Thomson Financial Global Access Database and Company Analysis. The AGSM Microfiche Series and Connect 4 produce and report financial statement data only for the larger size companies by market capitalization.

Looking at the mode of payment dummy, the CASH variable shows that 73.56 percent of sample bids are cash-based. This is similar to the proportion reported in Da Silva Rosa et al. (2000) over their 1988 to 1996 sample period, which is 147 cash-only bids (61.25%), and 93 ‘other’ bids (38.75%).¹⁰² For the period covering 1991 to 2000, Henry (2004) reports that 55% of bids are cash-based and 45% are share-based or mixed bids.

4.7 Summary

This chapter outlines the sample selection criteria and the research method adopted in the study. The measurement of the dependent and independent variables, with predictions made as to their likely signs, is also discussed. The final sample consists of 261 takeover bids from 1981 to 2000. Of these, 127 are made in the pre-AASB1013 period and 134 in the post-AASB1013 period. The pre-AASB1013 period is from 1 January 1981 to 30 June 1987, and the post-AASB1013 period is from 1 July 1987 to 31 December 2000.

The basic empirical model is adapted from Robinson and Shane (1990), Choi and Lee (1991) and Lee and Choi (1992). The model incorporates a period dummy (which takes on the value of one for a post-AASB1013 acquisition, and zero otherwise), acquired goodwill, and a goodwill interactive term, which is computed as acquired goodwill multiplied by the period dummy. The expanded version of the basic model incorporates a number of control variables. They are mode of payment, recognized and non-recognized carry-forward tax losses of the

¹⁰² The more detailed breakdown that they provide is 147 cash-only bids (61.25%), 47 stock-only bids (19.58%), 17 cash and stock bids (7.08%), 17 cash or stock bids (7.08%), and 12 cash or stock and other securities bids (5.00%). In this study, cash and share, cash or share, and cash and/or preference share bids are classified as ‘share-only’ bids, and assigned a zero value.

target, managerial share ownership, prior target stock return, target firm size, and bidder pre-bid proportionate share ownership (toehold). Most of these variables are drawn from the prior takeovers literature.

It is expected that the acquired goodwill and goodwill interactive terms will remain statistically significant after the incorporation of control variables into the regression model. If this is the case, then it can be reasonably concluded that the study's primary research hypotheses H3 and H4 are supported, and that it is unlikely that correlated omitted variables (Watts and Zimmerman, 1990; Clinch, 1995; Wong and Wong, 2001) are unduly influencing the study's reported results for the key variables of interest.

CHAPTER 5

RESULTS

5.1 Introduction

This chapter discusses the results from empirical tests of the hypotheses outlined in Chapter 3. Section 5.2 presents results from univariate tests and multiple regression results on cross-sectional variation in bid premiums are discussed in Section 5.3. Section 5.4 concludes.

5.2 Univariate Tests

The descriptive statistics for the full sample reported in Chapter 4 show that there are outliers in the data. In all the empirical tests that follow, outlying observations are winsorized so that extreme values are truncated at 2.5 standard deviations from the mean. Ignoring the treatment of outliers may unduly bias the results.¹⁰³

Table 5.1 provides a correlation matrix of all the test variables. As expected, the various measures of bid premium are highly correlated with each other (the correlations are better than 0.7). So are the various measures of acquired goodwill, with a correlation of about 0.95 for measures using the same denominator. The correlation between the two groups of goodwill measures (stratified according to the denominator used, book value or market value of equity) is about 0.8.

¹⁰³ An alternative way of treating outliers is to delete them from the test sample totally but this will reduce the degree of freedom. The results are generally not sensitive to how outliers are treated.

Table 5.1: Correlation matrix of test variables

	PREMIUM0	PREMIUM1	PREMIUM2	GWILL0	GWILL1	GWILL2	MV_GWILL0	MV_GWILL1	MV_GWILL2	T_LOSS	TL_NOTES	DIROWN	TOEHOLD	ln(SIZE)	RETURN1	RETURN2	RETURN3
PREMIUM1	0.7659																
PREMIUM2	0.7428	0.9468															
GWILL0	-0.1384	-0.1199	-0.0816														
GWILL1	-0.1073	-0.1782	-0.1318	0.9664													
GWILL2	-0.1124	-0.1768	-0.1640	0.9513	0.9867												
MV_GWILL0	-0.2189	-0.2060	-0.1611	0.8201	0.7964	0.7849											
MV_GWILL1	-0.1940	-0.2853	-0.2308	0.7996	0.8239	0.8122	0.9566										
MV_GWILL2	-0.1709	-0.2747	-0.2587	0.7867	0.8111	0.8231	0.9400	0.9768									
T_LOSS	-0.0121	-0.0242	-0.0134	0.0197	0.0316	0.0202	0.0265	0.0277	0.0143								
TL_NOTES	-0.0257	-0.0816	-0.0839	-0.0023	0.0203	0.0312	-0.0968	-0.0744	-0.0762	0.0636							
DIROWN	0.0504	-0.0256	-0.0013	-0.0288	-	-0.0354	-0.0668	-0.0436	-0.0466	0.0599	0.0589						
TOEHOLD	-0.0867	-0.0637	-0.0594	-0.0529	-	-0.0507	-0.0727	-0.0600	-0.0683	-0.1271	0.0045	0.1374					
ln(SIZE)	-0.0098	-0.0830	-0.0594	0.2739	0.2905	0.2894	0.3115	0.3132	0.3160	-0.0133	-0.1238	-0.1592	0.0386				
RETURN1	-0.0544	-0.0200	0.0213	0.3037	0.3014	0.2723	0.3165	0.2972	0.2789	-0.0167	-0.1120	-0.0054	0.0651	0.0427			
RETURN2	-0.0752	-0.0286	-0.0032	0.3311	0.3136	0.3032	0.3421	0.3126	0.2955	-0.0583	-0.0322	-0.0097	0.0546	0.0403	0.7174		
RETURN3	-0.0869	-0.0302	-0.0201	0.3219	0.3093	0.3114	0.3547	0.3187	0.3116	-0.0249	-0.0763	-0.0655	-0.0842	0.0342	0.5571	0.8154	

PREMIUM0, PREMIUM1, and PREMIUM2 are the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of, one month, and two months prior to the takeover announcement month respectively. GWILL0, GWILL1, and GWILL2 are goodwill measures using the target's pre-acquisition market share price measured as at the commencement, one month, and two months prior to the takeover announcement month. The scale used is the book value of the target's equity (net assets) per share. MV_GWILL0, MV_GWILL1, and MV_GWILL3 are measured the same except that the target's market value of equity is used as a scale. T_LOSS is the carry-forward recognized tax losses of the target divided by the book value of target net equity. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's market value of common equity as at the commencement of the takeover announcement month. RETURN1, RETURN2 and RETURN3 are the one, two, and three year target's prior excess stock return.

The correlations between the three measures of prior target share returns (RETURN1, RETURN2, and RETURN3) are better than 0.55, suggesting that the pre-announcement price run-up is perhaps not significantly different across the one, two, and three year windows leading to the bid announcement day. These returns measures are positively correlated with goodwill measures (the correlations are better than 0.27). To the extent that target's prior share performance can proxy for inefficient management, this correlation is expected.

T_LOSS and TL_NOTE are not highly correlated with each other. This result is not surprising. Where target management classify future recoupment of carry-forward tax losses as 'virtually certain', the FITB is recognised as an asset on the balance sheet (T_LOSS). In those cases where the target management does not regard the future recoupment as 'virtually certain', the FITB asset is only note-disclosed (TL_NOTE). Since the companies falling into these two categories will not overlap, no correlation between these two variables is expected.

Looking at the correlations between the proxies for bid premium and goodwill, the matrix shows a negative association between goodwill and bid premium, irrespective of how the two variables are measured. It is also noted that the signs of the univariate relationships between bid premium and the explanatory variables is generally robust to the measurement procedures used.

Contrary to expectations, tax loss assets, whether disclosed in the financial statement or in the footnotes, are negatively related to bid premium. Bid premium is also negatively associated with the percentage of bidders' prior ownership of targets'

shares (TOEHOLD) and targets' prior share returns (RETURN1, RETURN2, and RETURN3). The correlations between the independent variables are generally low, indicating that multicollinearity in the data is unlikely to pose a serious problem.

Table 5.2 tests whether the firm-specific characteristics differ across the pre- and post-AASB1013 periods. Univariate tests of difference in means and medians for these variables are conducted using the parametric t-test and non-parametric Wilcoxon test respectively. The latter was conducted since the test variables are highly skewed, as previously shown in the descriptive statistics reported in Chapter 4.

Apart from PREMIUM0, Table 5.2 shows that the mean and median excess bid premiums (using PREMIUM1 and PREMIUM2) decrease after the passage of AASB1013. The drop in bid premium is significant at the 0.05 level (one-tailed) under the t-test using both PREMIUM1 and PREMIUM2. Here, the data show that for the pre-AASB1013 period, the average (median) excess bid premium (PREMIUM2) is 33.59% (25.31%), compared to 24.88% (21.30%) in the post-AASB1013 period. Since PREMIUM0 is measured over a shorter window, it does not fully capture the well-documented price run-up and is therefore a less accurate proxy for takeover premium than the alternatives. For this reason, less emphasis is placed on the results obtained using the PREMIUM0 variable. The results for the mean difference tests for bid premium (as reported in Table 5.2) provide some preliminary support for Hypothesis H1.

The univariate results for differences in the reported amounts for goodwill are less clear cut. In any event, the statistical difference in the goodwill amount before and

after AASB1013 is not significant. In the absence of a consideration of the impact of confounding factors, the univariate tests show that AASB1013 did not contribute to a significant economy-wide decline in the mean and median levels of acquired goodwill in the sample of Australian takeovers examined. Thus, Hypothesis H2 of a significant reduction in goodwill amount in the post-AASB1013 period is not supported.

For completeness, differences in other firm-specific characteristics are also reported in Table 5.2 to indicate whether the introduction of AASB1013 in 1987, which coincided with the world market crash period, caused a structural shift in them. Overall, the results show that in the post-AASB1013 period, the size of target firms (SIZE), directors' share ownership (DIROWN), and tax loss assets (T_LOSS and TL_NOTE) have significantly increased relative to the pre-AASB1013 period under the one-tailed t-test. However, prior target excess share returns, irrespective of the return window length used, have significantly decreased. No significant change in bidders' prior ownership (TOEHOLD) is detected by either of the univariate tests used.

Table 5.2: Tests of difference in means and medians of firm-specific characteristics between the pre-1987 (n=127) and post-1987 (n=134) period, 1980-2000.

	Pre-1987	Post-1988	Test Statistic	Probability
PREMIUM0	0.2023	0.2238	0.5225	0.6018
	<i>0.1593</i>	<i>0.1771</i>	<i>1.0391</i>	<i>0.2988</i>
PREMIUM1	0.3413	0.2559	1.6723*	0.0957
	<i>0.2497</i>	<i>0.2185</i>	<i>1.5109</i>	<i>0.1308</i>
PREMIUM2	0.3359	0.2488	1.6692*	0.0963
	<i>0.2531</i>	<i>0.2130</i>	<i>1.5822</i>	<i>0.1136</i>
GWILL0	0.2627	0.2330	0.3085	0.7579
	<i>0.0784</i>	<i>-0.0144</i>	<i>0.1263</i>	<i>0.8995</i>
GWILL1	0.1614	0.2029	0.4530	0.6509
	<i>-0.0353</i>	<i>-0.0229</i>	<i>0.9102</i>	<i>0.3627</i>
GWILL2	0.1515	0.1999	0.5397	0.5899
	<i>-0.0470</i>	<i>0.0405</i>	<i>1.2127</i>	<i>0.2253</i>
MV_GWILL0	-0.0428	-0.0466	0.0566	0.9549
	<i>0.0727</i>	<i>-0.0147</i>	<i>0.1349</i>	<i>0.8927</i>
MV_GWILL1	-0.1312	-0.0594	1.0476	0.2959
	<i>-0.0366</i>	<i>-0.0235</i>	<i>0.9016</i>	<i>0.3673</i>
MV_GWILL2	-0.1366	-0.0605	1.1101	0.2680
	<i>-0.0494</i>	<i>0.0388</i>	<i>1.2144</i>	<i>0.2246</i>
ln(SIZE)	17.7917	18.3680	3.2228***	0.0014
	<i>17.7176</i>	<i>18.2748</i>	<i>3.2186***</i>	<i>0.0013</i>
DIROWN	0.1346	0.2191	2.6456**	0.0087
	<i>0.0274</i>	<i>0.0764</i>	<i>1.4794</i>	<i>0.1390</i>
TOEHOLD	0.0910	0.0813	0.5224	0.6019
	<i>0.0000</i>	<i>0.0000</i>	<i>0.7510</i>	<i>0.4526</i>
T_LOSS	0.0022	0.0062	1.7841*	0.0756
	<i>0.0000</i>	<i>0.0000</i>	<i>1.0580</i>	<i>0.2901</i>
TL_NOTE	0.0275	0.0552	1.7232*	0.0861
	<i>0.0000</i>	<i>0.0000</i>	<i>1.5333</i>	<i>0.1252</i>
RETURN1	0.0409	-0.1316	2.7697**	0.0062
	<i>-0.0108</i>	<i>-0.0914</i>	<i>2.5385**</i>	<i>0.0111</i>
RETURN2	0.0095	-0.3232	3.9949***	0.0001
	<i>0.0440</i>	<i>-0.2492</i>	<i>3.6514***</i>	<i>0.0003</i>
RETURN3	-0.0222	-0.4183	4.2323***	0.0000
	<i>-0.1186</i>	<i>-0.3943</i>	<i>3.8206***</i>	<i>0.0001</i>

PREMIUM0, PREMIUM1, and PREMIUM2 are the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of, one month, and two months prior to the takeover announcement month respectively. GWILL0, GWILL1, and GWILL2 are goodwill measures using the target's pre-acquisition market share price measured as at the commencement, one month, and two months prior to the takeover announcement month. The scale used is the book value of the target's equity (net assets) per share. MV_GWILL0, MV_GWILL1, and MV_GWILL3 are measured the same except that the target's market value of equity is used as a scale. T_LOSS is the carry-forward recognized tax losses of the target divided by the book value of target net equity. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. RETURN1, RETURN2 and RETURN3 are the one, two, and three year target prior excess stock return. For each variable, the t-statistics for difference in means are reported in the first row; Wilcoxon tests for difference in medians are reported in the second row (in italic). *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level (two-tailed) respectively.

The main drawback of univariate tests is that they examine the effect of only one explanatory variable on bid premium at a time, holding all else constant. To the extent that the independent variables do interact with each other in affecting the bid premium, multivariate tests are more appropriate. This is the focus of the next section.

5.3 Multivariate Tests

5.3.1 Full sample

Results from multiple OLS regressions using the full sample (n=261) are reported in three tables for each of the measures of the dependent variable, bid premium: PREMIUM0 in Table 5.3, PREMIUM1 in Table 5.4, and PREMIUM2 in Table 5.5.

**Table 5.3: Multiple OLS regression results for the full sample
(Dependent variable = PREMIUM0)**

Independent variables (expected sign)	Regression 1	Regression 2	Regression 3	Regression 4
POST87 (?)	0.0212 (0.3889)	0.0044 (0.0722)	-0.0433 (-0.7015)	-0.0284 (-0.3420)
MV_GWILL0 (?)	-0.1940*** (-2.7879)	-0.2321*** (-3.1140)	-0.5563*** (-4.4433)	-0.4789*** (-2.7989)
POST87* MV_GWILL0 (?)	0.0323 (0.3265)	0.0502 (0.4714)	0.1136 (1.0487)	0.2647* (1.8114)
TOEHOLD (-)		-0.3625* (-1.8396)	-0.4497** (-2.2840)	-0.2611 (-1.0208)
DIROWN (?)		0.1082 (0.9198)	0.0905 (0.7871)	0.0298 (0.1997)
TL_NOTE (+)		-0.1430 (-0.6694)	-0.1456 (-0.6933)	-0.2315 (-0.8319)
Ln(SIZE) (?)		0.0258 (1.1449)	0.0363 (1.6147)	0.0240 (0.8378)
CASH (?)		-0.0189 (-0.2796)	0.0140 (0.2106)	0.0037 (0.0425)
TOEHOLD* MV_GWILL0 (-)			-0.2497 (-0.7766)	-0.8123* (-1.8374)
CASH*MV_GWILL0 (?)			0.4261*** (3.5857)	0.3387** (2.1307)
FINANCIALS (?)			0.1059 (1.2483)	0.1554 (1.4458)
RETURN3 (-)				0.0144 (0.2014)
Constant	0.2456*** (6.2890)	-0.1733 (-0.4164)	-0.3681 (-0.8843)	-0.1550 (-0.2922)
Adj. R ²	0.0377	0.0393	0.0846	0.0484
N	261	245	245	166

PREMIUM0 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the takeover announcement month. MV_GWILL0 is goodwill measured using the target's pre-acquisition market share price measured as at the commencement of the takeover announcement month. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. RETURN3 is the target's three year prior excess stock return. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

**Table 5.4: Multiple OLS regression results for the full sample
(Dependent variable = PREMIUM1)**

Independent variables (expected sign)	Regression 1	Regression 2	Regression 3	Regression 4
POST87 (?)	-0.0588 (-0.9397)	-0.0473 (-0.6699)	-0.0927 (-1.3354)	-0.0658 (-0.7025)
MV_GWILL1 (?)	-0.3308*** (-4.4676)	-0.3511*** (-4.4413)	-0.6396*** (-4.9678)	-0.7046*** (-3.7250)
POST87* MV_GWILL1 (?)	0.1627 (1.4828)	0.1564 (1.3175)	0.2217* (1.8652)	0.2224 (1.3681)
TOEHOLD (-)		-0.2945 (-1.3187)	-0.5108** (-2.2789)	-0.4059* (-1.4014)
DIROWN (-)		-0.0292 (-0.2183)	-0.0484 (-0.3759)	-0.1119 (-0.6733)
TL_NOTE (+)		-0.3191 (-1.3199)	-0.3867* (-1.6546)	-0.4698 (-1.5192)
Ln(SIZE) (?)		0.0104 (0.4079)	0.0236 (0.9457)	0.0174 (0.5447)
CASH (?)		-0.0226 (-0.2946)	0.0410 (0.5456)	0.0512 (0.5275)
TOEHOLD* MV_GWILL1 (-)			-1.0011*** (-2.7934)	-0.7096* (-1.4696)
CASH*MV_GWILL1 (-)			0.4784*** (3.7279)	0.5672*** (3.1828)
FINANCIALS (?)			0.0715 (0.7533)	0.1145 (0.9495)
RETURN3 (-)				0.0707 (0.8842)
Constant	0.3505*** (7.7221)	0.2209 (0.4695)	-0.0280 (-0.0603)	0.0826 (0.1397)
Adj. R ²	0.0841	0.0814	0.1503	0.0883
N	261	245	245	166

PREMIUM1 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the month prior to takeover announcement month. MV_GWILL1 is goodwill measured using the target's pre-acquisition market share price measured as at the commencement of the month prior to the takeover announcement. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. RETURN3 is the target's three year prior excess stock return. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

**Table 5.5: Multiple OLS regression results for the full sample
(Dependent variable = PREMIUM2)**

Independent variables (expected sign)	Regression 1	Regression 2	Regression 3	Regression 4
POST87 (?)	-0.0663 (-1.0400)	-0.0574 (-0.8004)	-0.1155* (-1.6553)	-0.0955 (-1.0261)
MV_GWILL2 (?)	-0.3053*** (-3.9798)	-0.3383*** (-4.1676)	-0.7029*** (-5.4559)	-0.8221*** (-4.4516)
POST87* MV_GWILL2 (?)	0.1506 (1.3464)	0.1656 (1.3783)	0.2610** (2.1945)	0.2742* (1.7240)
TOEHOLD (-)		-0.2988 (-1.3208)	-0.5099** (-2.2648)	-0.3905 (-1.3572)
DIROWN (?)		0.0272 (0.2011)	0.0055 (0.0429)	-0.0442 (-0.2680)
TL_NOTE (+)		-0.3074 (-1.2581)	-0.3450 (-1.4782)	-0.5031* (-1.6560)
Ln(SIZE) (?)		0.0176 (0.6830)	0.0324 (1.2928)	0.0224 (0.7091)
CASH (?)		-0.0647 (-0.8321)	0.0138 (0.1816)	0.0253 (0.2617)
TOEHOLD* MV_GWILL2 (-)			-0.8458** (-2.3116)	-0.2841 (-0.5772)
CASH*MV_GWILL2 (?)			0.5654*** (4.4723)	0.6692*** (3.8860)
FINANCIALS (?)			0.1258 (1.3258)	0.1882 (1.5667)
RETURN3 (-)				0.0615 (0.7765)
Constant	0.3485*** (7.5242)	0.1117 (0.2341)	-0.1801 (-0.3868)	0.0015 (0.0025)
Adj. R ²	0.0691	0.0697	0.1550	0.1185
N	261	245	245	166

PREMIUM2 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the two months prior to the takeover announcement month. MV_GWILL2 is goodwill measured using the target's pre-acquisition market share price measured as at the commencement of the month two months prior to the takeover announcement. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. RETURN3 is the target's three year prior excess stock return. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

Each of these tables reports four model specifications on the cross-sectional differences in takeover bid premium. Regression 1 reports the results from the “base” model specified in equation 1 (see Chapter 4), and Regression 2 extends the model to include other explanatory variables (i.e., control variables) that may also have an impact on bid premium, as identified in Chapter 3. Regression 3 allows for cross-products of some of the control variables. Since data on past share returns are available for a reduced sample, the results for tests that include target prior share performance (denoted by RETURN3 in the tables) are reported separately in Regression 4. Where the chi-square test for heteroscedasticity rejects the hypothesis of constant variances, the White’s (1980) consistent covariance matrix is used to estimate the standard errors.

The results are generally robust across the three measures of bid premium. Focusing on the base model in Regression 1 across the three tables, there is a significantly negative relationship between goodwill and bid premium, where goodwill is measured using the market value of equity as a scalar.¹⁰³ The significant coefficient on MV_GWILL supports the predictions of Hypothesis H4.

The reported negative sign for this association is perhaps due to either removal of inefficient management and/or low replacement cost of assets hypotheses, which have support in Walkling and Edmister (1985), Nathan (1988), Robinson and Shane (1990), and Ayres et al. (2002). To the extent that negative goodwill is due to inefficient management, this result suggests that bidders are willing to pay a higher

¹⁰³ Tests are also run using goodwill measures scaled by book value of equity. The results, although not reported, are robust to these alternative measures.

premium for targets with inefficient management who will be removed subsequent to the takeover.

Contrary to expectations, the time dummy (POST87) is insignificantly related to premium.¹⁰⁴ This is not supportive of the argument that the stock-market crash of October 1987 is a factor that led to an observable alteration in the market-wide mean level of excess bid premiums paid in Australian takeovers. Any significant impact of the stock market crash on the excess bid premiums would have manifested in a significant coefficient being reported for the time period dummy variable.¹⁰⁵ That the crash did not appear to affect the relation between stock prices and accounting information is consistent with Bowen, Johnson and Shevlin (1989), who find no evidence of a change in the market's reaction to earnings during the 1987 market crash.

Similar findings are reported in Regression 2, with goodwill being a significant explanatory variable for bid premium. The only additional variable that is significant in this expanded regression is TOEHOLD in Table 5.3, which has the expected negative sign. This is consistent with the findings of Ayers et al. (2002). That is, bidders with higher prior ownership in target firms pay, on average, a significantly lower bid premium than those with lower prior ownership. Overall, Regression 2 lacks explanatory power (adjusted R-square ranges from 3.93% in Table 5.3 to 8.14% in Table 5.4). This is due mainly to an omission of variable problem, which is dealt with in subsequent regressions.

¹⁰⁴ In the interactive term POST87*GWILL takes a value of one

¹⁰⁵ Although not reported in the tables, secular trend dummies are also used in place of the POST87 dummy. The results show that none of the secular dummies is significant.

The full regression (Regression 3) shows that the interaction variable $POST87 * MV_GWILL$ has a significantly positive coefficient in Tables 5.4 and 5.5. This suggests that the *economic* relationship between takeover premium and goodwill has substantially weakened after the introduction of the accounting standard AASB1013. For example, Table 5.4 shows that MV_GWILL has a coefficient of -0.639 in the pre-1987 (or pre-AASB1013) period and a coefficient of -0.4179 (-0.6396+0.2217) in the post-1987 (or post-AASB1013) period. This supports Hypothesis H3 in that the accounting standard AASB1013 has significantly altered (reduced) the slope of the association between acquired goodwill and excess bid premium.

$TOEHOLD$ and $TOEHOLD * MV_GWILL$ are both significantly negatively related to bid premium, measured by $PREMIUM1$ and $PREMIUM2$. Only the interaction term is insignificant when $PREMIUM0$ is the dependent variable.¹⁰⁶ This suggests that at high levels of bidder prior ownership (toehold), the slope of the association between acquired goodwill and excess bid premium becomes significantly more negative.

This finding can be explained by a less competitive market for corporate control operating where toeholds are high, and hence less of a willingness on the part of acquiring firms to pay more for incremental increases in the value of acquired goodwill. This is because there is no longer such a need to signal the value of the acquired goodwill to relatively less informed capital market participants.

¹⁰⁶ Since $PREMIUM0$ is measured over a shorter window, it does not fully capture the well-documented price run-up and is therefore a less accurate proxy for takeover premium than the alternatives. For this reason, less emphasis is placed on the results obtained using the $PREMIUM0$ variable.

Theoretically, in the context of information-signalling arguments, and also empirically, this interaction term appears to be an important explanatory variable.

The insignificant sign on the mode of payment dummy variable (CASH) reported here supports the prior Australian results of Da Silva Rosa et al. (2000), but runs contrary to the results of key prior US studies such as Wansley et al. (1983), Huang and Walkling (1987), Schwert (2000), and Lefanowicz et al. (2000). These US studies document that cash based bids are associated with higher mean bid premiums. A potential explanation for the observed discrepancy is that, in the US, unlike in Australia prior to 10 December 1999 (Henry, 2004, p. 427), share-for-share exchanges do not attract capital gains tax. As a result, in the US market for corporate control, bidder firms offering cash consideration must offer a higher mean bid premium to compensate the target firm shareholders for the estimated capital gains tax liability. The Australian institutional setting does not favour share-based bids for capital gains tax rollover relief reasons (i.e., prior to 10 December 1999) and as such there is no tax-based reason for cash based bids in Australia to command a higher mean bid premium than share and mixed based bids.

The interaction between the mode of payment and goodwill, as captured by CASH*MV_GWILL, has a significant positive coefficient (at better than the 1% level) across the three measures of bid premium. Looking at Table 5.4, for example, the results collectively show that the relationship between premium and goodwill post-AASB1013 for cash consideration bids ($\text{PREMIUM1} = \{-0.6396 + 0.2217 + 0.4784\} * \text{MV_GWILL}$) becomes economically almost insignificant (0.0605).

Therefore, for the sub-sample of bidders that use cash consideration, the evidence shows that goodwill is less of an important variable in determining takeover bid premium post-AASB1013. Fishman (1989) argues that bidders will offer cash consideration for those targets that they perceive to be of ‘high value’ because this will increase the likelihood that target firm shareholders will view the acquisition favourably and cash consideration will speed up the acquisition process. Where cash is the consideration, low goodwill values are less likely to be driven by prior inefficient management, and so we expect there to be a weakening of the association between goodwill and premium for cash bids. The results support these expectations.

The goodwill measure is significantly negative in all the tables, at better than the 1% level in every case. In Regression 3, MV_GWILL captures the slope of the association between premium and goodwill for ‘base cases’, which are the pre-AASB1013 and non-cash bids (notice that MV_GWILL interacts with POST87 and CASH in the equation). The results show that there is a significant negative relationship between goodwill and bid premium for non-cash bids that took place in the pre-AASB1013 period.

The coefficient on tax loss assets disclosed in the notes (TL_NOTE) is consistently negative in all regressions.¹⁰⁷ This result runs contrary to prior predictions. If the note disclosed tax losses represent incremental value gains available to the acquiring firm management, and there is a competitive market for corporate control, then there should be a positive association between the dependent variable and TL_NOTE. Although contrary to predictions, the association between TL_NOTE and bid

¹⁰⁷ The results are not significant when T_LOSS is used. These are not reported in the tables.

premium is generally not robust. It is statistically significant (though has a sign opposite of that) only in Regression 3 in Table 5.4 and Regression 4 in Table 5.5.

Other control variables, i.e., directors ownership (DIROWN), industry sector (FINANCIAL), and target's firm size (SIZE) are insignificant in explaining the cross-sectional differences in bid premium. The lack of results for the SIZE variable is not surprising since "size effects" are more or less controlled for in the scaled premium measure (recall that the denominator used is the market value of equity). It is important to note that the acquired goodwill term and the three goodwill interactive terms (goodwill interacting with time period, toehold, and cash) retain their significance after the various control variables are incorporated into the regression. Thus, it is highly unlikely that confounding influences are creating the results reported in this study between acquired goodwill, time period, and excess bid premium.

Regression 4 shows that the target prior share price performance (RETURN3),¹⁰⁸ used as a proxy for the theoretical construct of prior inefficient management, is insignificant across all of the bid premium measures. A number of independent variables that were significant in previous regressions are no longer significant when RETURN3 is included. This is due mainly to the reduced sample size arising from data unavailability. Importantly, MV_GWILL and its interaction with POST87 generally retain their significance and sign in this reduced sample. The smaller sample used in Regression 4 reduces the generalisability of the results, and as such these results must be interpreted with caution. More emphasis should be placed on the results based on the full sample in Regression 3.

¹⁰⁸ Similar but generally less significant results are obtained using the alternative performance measures. For brevity, these results are not reported.

Regression 3 has by far the highest explanatory power for all the bid premium measures. The adjusted R-squared of 15.50%, for the version of the regression model that uses PREMIUM2 as the dependent variable, suggests a high degree of overall explanatory power for the model. The adjusted R-squared is within the same region as the 14.6% reported in Robinson and Shane (1990), and the 20% reported in Ayres et al. (2002).

5.3.2 Pre- and post-AASB1013 sub-samples

To further investigate how the implementation of AASB1013 affects the association between goodwill (and other firm-specific characteristics) and bid premium, regressions are run separately for the pre- and post AASB1013 periods. Two sets of regressions are reported for each of the three measures of bid premium. Tables 5.6 to 5.8 report the results for the pre-AASB1013 sub-sample, whilst the post-AASB1013 period results are in Tables 5.9 to 5.11. As with the full sample, the results for the sub-samples are generally robust across the various alternative measures of bid premium.

**Table 5.6: Multiple OLS regression results for the pre-AASB1013 sample
(Dependent variable = PREMIUM0)**

Independent variables	Regression 1	Regression 2
MV_GWILL0	-0.194** (-2.0449)	-0.8959*** (-5.3987)
TOEHOLD		-0.1767 (-0.6066)
DIROWN		-0.0179 (-0.0981)
TL_NOTE		-0.4589 (-1.2375)
Ln(SIZE)		-0.0296 (0.8739)
CASH		-0.1320 (-1.4580)
TOEHOLD*MV_GWILL0		0.1303 (0.2900)
CASH*MV_GWILL0		0.7781*** (4.4956)
FINANCIALS		0.2452* (1.9385)
Constant	0.2456*** (6.4882)	-0.1455 (-0.2287)
Adj. R ²	0.0476	0.1851
N	127	123

PREMIUM0 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the takeover announcement month. MV_GWILL0 is goodwill measured using the target's pre-acquisition market share price at the commencement of the takeover announcement month. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

**Table 5.7: Multiple OLS regression results for the pre-AASB1013 sample
(Dependent variable = PREMIUM1)**

Independent variables	Regression 1	Regression 2
MV_GWILL1	-0.3307*** (-2.8889)	-0.7533*** (-4.1812)
TOEHOLD		-0.3574 (-0.9225)
DIROWN		-0.2361 (-1.0198)
TL_NOTE		-0.5195 (-1.1046)
Ln(SIZE)		0.0113 (0.2632)
CASH		-0.1054 (-0.9157)
TOEHOLD*MV_GWILL1		-1.2715** (-2.1393)
CASH*MV_GWILL1		0.6260*** (3.1556)
FINANCIALS		0.1764 (1.0961)
Constant	0.3505*** (8.1089)	0.2990 (0.3717)
Adj. R ²	0.1073	0.1767
N	127	123

PREMIUM1 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the month prior to the takeover announcement month. MV_GWILL1 is goodwill measured using the target's pre-acquisition market share price measured as at the commencement of the month prior to the takeover announcement. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

**Table 5.8: Multiple OLS regression results for the pre-AASB1013 sample
(Dependent variable = PREMIUM2)**

Independent variables	Regression 1	Regression 2
MV_GWILL2	-0.3053** (-2.5968)	-0.7597*** (-4.1307)
TOEHOLD		-0.3808 (-0.9589)
DIROWN		-0.1640 (-0.6965)
TL_NOTE		-0.3805 (-0.7962)
Ln(SIZE)		0.0315 (0.7282)
CASH		-0.1157 (-0.9873)
TOEHOLD*MV_GWILL2		-1.4774*** (-2.4177)
CASH*MV_GWILL2		0.6812*** (3.3557)
FINANCIALS		0.2619 (1.6065)
Constant	0.3485*** (7.7737)	-0.0806 (-0.0992)
Adj. R ²	0.0832	0.1750
N	127	123

PREMIUM2 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the two months prior to the takeover announcement month. MV_GWILL2 is goodwill measured using the target's pre-acquisition market share price at the commencement of the two months prior to the takeover announcement. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

**Table 5.9: Multiple OLS regression results for the post-AASB1013 sample
(Dependent variable = PREMIUM0)**

Independent variables	Regression 1	Regression 2
MV_GWILL0	-0.1617* (-1.6777)	-0.3323 (-1.3930)
TOEHOLD		-0.5609* (-1.8931)
DIROWN		0.1084 (0.9033)
TL_NOTE		-0.0809 (-0.3026)
Ln(SIZE)		0.0301 (1.1670)
CASH		0.1473 (1.6663)
TOEHOLD*MV_GWILL0		-0.6388 (-0.8136)
CASH*MV_GWILL0		0.2698 (1.1095)
FINANCIALS		-0.0081 (-0.1168)
Constant	0.2668*** (7.3950)	-0.3736 (-0.7852)
Adj. R ²	0.0338	0.0359
N	134	134

PREMIUM0 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the takeover announcement month. MV_GWILL0 is goodwill measured using the target's pre-acquisition market share price at the commencement of the takeover announcement month. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

**Table 5.10: Multiple OLS regression results for the post-AASB1013 sample
(Dependent variable = PREMIUM1)**

Independent variables	Regression 1	Regression 2
MV_GWILL1	-0.1681** (-1.7417)	-0.4650* (-1.8723)
TOEHOLD		-0.6610*** (-2.4370)
DIROWN		0.0633 (0.4590)
TL_NOTE		-0.3386 (-1.4516)
Ln(SIZE)		0.0230 (0.8288)
CASH		0.2082** (2.3480)
TOEHOLD*MV_GWILL1		-0.8125 (-1.2449)
CASH*MV_GWILL1		0.4667* (1.8366)
FINANCIALS		0.0184 (0.2456)
Constant	0.2917*** (7.7690)	-0.2450 (-0.4752)
Adj. R ²	0.0331	0.0976
N	127	123

PREMIUM1 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the month prior to the takeover announcement month. MV_GWILL1 is goodwill measured using the target's pre-acquisition market share price at the commencement of the takeover announcement month. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash consideration and zero otherwise. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

**Table 5.11: Multiple OLS regression results for the post-AASB1013 sample
(Dependent variable = PREMIUM2)**

Independent variables	Regression 1	Regression 2
MV_GWILL2	-0.1546 (-1.6190)	-0.5613*** (-2.8597)
TOEHOLD		-0.7138*** (-2.8341)
DIROWN		0.1174 (0.8992)
TL_NOTE		-0.3146 (-1.2915)
Ln(SIZE)		0.0289 (1.1349)
CASH		0.1745* (2.0129)
TOEHOLD*MV_GWILL2		-0.2991 (-0.5891)
CASH*MV_GWILL2		0.6060*** (2.9367)
FINANCIALS		0.0763 (0.9941)
Constant	0.2823*** (7.5730)	-0.3591 (-0.7549)
Adj. R ²	0.0283	0.1238
N	127	123

PREMIUM2 is the market-adjusted bid premium measured using the target's pre-acquisition market share price at the commencement of the two months prior to the takeover announcement month. MV_GWILL2 is goodwill measures using the target's pre-acquisition market share price at the commencement of the two months prior to the takeover announcement. POST87 takes a value of one for bid announcements occurring after 1 July 1987 and zero otherwise. TL_NOTE is the carry-forward footnote-disclosed tax losses of the target divided by the book value of target net equity. DIROWN is the percentage of managerial ordinary share ownership in the target. TOEHOLD is the bidder's pre-bid percentage ordinary share ownership in the target. SIZE is the target's inflation-adjusted market value of common equity as at the commencement of the takeover announcement month. CASH takes a value of one for cash considerations and zero otherwise. White-adjusted t-statistics are in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level respectively.

The estimated coefficient on goodwill is significantly negative for all the reported regressions for both the pre- and post-AASB1013 samples, except for Regression 2 in Table 5.9 and Regression 1 in Table 5.11. These results support the prediction of Hypothesis H4. In comparison, the magnitude and significance of the coefficient on MV_GWILL are substantially larger in the pre-AASB1013 period than in the post-AASB1013 period. This is true for both the base and extended regressions. This implies that the economic and statistical association between goodwill and bid premium has substantially weakened in the post-AASB1013 period. This is as observed for the full sample regressions reported in the preceding section and as predicted in Hypothesis H3.

In Regression 2, TOEHOLD is significantly negatively related to bid premium only in the post-AASB1013 period across all measures of premium. Apart from Table 5.9, the interaction variable CASH*GOODWILL is significantly positive related to bid premium. This relationship is somewhat weakened in the post-AASB1013 period possibly because of a weakened relationship between goodwill and premium in this time period. TOEHOLD*GOODWILL is only significantly related to bid premium in the pre-AASB1013 period for PREMIUM1 and PREMIUM2 measures of bid premium.

There is some evidence of industry effect on bid premium, as captured by the FINANCIALS variable, but it is not robust. There is a significant and positive sign on FINANCIALS but this only occurs in the pre-AASB1013 period, and only for the PREMIUM0 version of the dependent variable (the results of which are reported in Table 5.6).

5.4 Summary

The univariate tests indicate that the mean and median levels of the excess bid premium (acquired goodwill) decline (increase) after the accounting standard AASB1013 was issued. The decline in excess bid premium supports the prediction of Hypothesis H1. By contrast, the increase in acquired goodwill runs contrary to the prediction of Hypothesis H2. Only the drop in bid premium is statistically significant.

The multiple regression results clearly support Hypothesis H3. The results indicate that the slope of the association between acquired goodwill and the excess bid premium significantly alters (moves towards zero) in the post-AASB1013 period. The significant negative coefficient on the acquired goodwill term is robust across nearly all regressions. This result supports the removal of inefficient management and low replacement cost of assets hypotheses proposed by Walkling and Edmister (1985), Nathan (1988), and Ayres et al. (2002, pp. 18-19). However, the acquired goodwill term may not capture very well the underlying theoretical construct of prior management inefficiency, and it may also be capturing other theoretical constructs, such as growth opportunities and the degree of conservatism of accounting practice.

This result for Hypothesis H3 tentatively support the primary presumption put forward in this thesis, namely that the artificial restriction on accounting policy choice, in the acquired goodwill area in the post-AASB1013 period, limits the signalling properties, and usefulness for signalling purposes, of the reported goodwill numbers. That is, the study's research findings tentatively support the argument that the rules of AASB1013 take away the valuable real option to freely choose accounting

policy for the acquired goodwill balance in a way that prevents the associated accounting-related benefits from being secured via alternative means.

The multiple regression model and the alternative versions of the regression model show that the significant reported results for the TOEHOLD*CASH and TOEHOLD*MV_GWILL variables are robust to alternative specifications of the regression model. As can be seen from Tables 5.3 to 5.5, the acquired goodwill term retains its negative sign and statistical significance in Regression 3, which incorporates the two additional goodwill interactive terms. The POST87*MV_GWILL interactive term retains its positive sign across all regressions, and its significance where the PREMIUM1 measure is used. This indicates that it is highly unlikely, albeit possible, that correlated omitted variables (Watts and Zimmerman, 1990; Clinch, 1995; Wong and Wong, 2001) are responsible for the significant t-statistics reported for the key variables of interest in this study.

CHAPTER 6

CONCLUSIONS

6.1 Conclusions

This study documents a significant reduction in the strength of the association between acquired goodwill and bid premium as a result of the passage of the Australian approved accounting standard AASB1013: *Accounting for Goodwill*. This standard first became effective for financial years ending on or after 19 June 1988, which for most Australian companies is the financial year ending 30 June 1988. AASB1013 mandates capitalization and systematic amortization of purchased (acquired) goodwill to the consolidated profit and loss account over a maximum time period of 20 years. This study uses a pre-AASB1013 sample collected from successful acquisitions of Australian target firms between 1 January 1981 and 30 June 1987, and a post-AASB1013 sample collected from successful acquisitions of Australian target firms between 1 July 1987 and 31 December 2000.

The study's research question is tested via mean/median difference tests and a multiple regression model derived from Robinson and Shane (1990), Choi and Lee (1991), Lee and Choi (1992), and Ayres et al. (2002). In addition, a number of control variables, commonly held to be systematic non-goodwill determinants of the bid premium, are incorporated into the regression model.

The major findings of this thesis are as follow:

- (a) There is a significant reduction in the mean and median bid premiums paid between the pre- and post-AASB1013 periods.
- (b) There is no significant difference in the mean and median levels of acquired goodwill purchased between the pre- and post-AASB1013 periods.
- (c) There is a negative and significant association between acquired goodwill and the bid premium. This result is consistent with both the removal of inefficient management and low replacement cost of assets hypotheses proposed by Walkling and Edmister (1985), Nathan (1988), and Ayres et al. (2002, pp. 18-19). The finding of a negative and significant association between acquired goodwill and the bid premium is also consistent with the results of prior studies conducted in the US such as Walkling and Edmister (1985), Nathan (1988), Robinson and Shane (1990), and Ayers et al. (2002).
- (d) A significant reduction in the strength of the association between acquired goodwill and the bid premium is observed to occur in Australia after the issuance of AASB1013.

The above results are consistent with the conjecture that restrictions on accounting discretion on acquired goodwill imposed by AASB1013 results in reported acquired goodwill numbers that are no longer useful for signalling purposes in the post-AASB1013 period. Because managers regard the reported financial statement goodwill numbers as being less meaningful and significant in the post-AASB1013 period, there is a reduction in the strength of the observed association between bid premium (a variable directly controlled by managers) acquired goodwill.

Whilst the study's research findings indicate that AASB1013 results in reported acquired goodwill numbers that are no longer useful for signalling purposes in the post-AASB1013 period, I am reluctant to make any specific recommendation to accounting policy-makers. The reason is that accounting standard-setting is a political process, and it involves taking into account the social and economic consequences to various parties of proposed accounting rules. Any outcome will, and should, take into account the various needs and preferences of the diverse variety of interest groups affected by the proposed rule.

Watts and Zimmerman (1986, p. 7) state that "(e)conomic efficiency is frequently used as an objective in economics and accounting. However, support for that objective is not unanimous. Economic efficiency does not rank alternative cross-sectional distributions of wealth (i.e., the division of the pie), and many are concerned with the 'equity' of these distributions", and that "choosing an objective, other than economic efficiency, amounts to choosing between individuals and, therefore, necessarily entails a subjective value judgement" (p. 8).

Therefore, whilst the study's research findings indicate that AASB1013 results in reported acquired goodwill numbers that are no longer useful for signalling purposes in the post-AASB1013 period, I am therefore reluctant to make any specific recommendation to accounting policy-makers. The reason is that accounting standard-setting is a political process, and it involves taking into account the social and economic consequences to various parties of proposed accounting rules. Any outcome will, and should, take into account the various needs and preferences of the diverse variety of interest groups affected by the proposed rule. For this reason, I do not think it is appropriate to suggest to policy makers which accounting rules they *should* adopt. Watts and Zimmerman (1986, p. 9) add that

“...theory only supplies one of the two necessary ingredients for prescription: the effect of certain actions on various variables. The user supplies the other ingredient: the objective and the function that provides the effect of variables on that objective (the objective function)”. This is also the viewpoint adopted in the thesis.

The acquired goodwill term retains its negative sign and statistical significance after the incorporation of control variables into the regression analysis. This suggests that it is highly unlikely that the reported regression results are unduly influenced by changes in the relative bargaining power of targets versus bidders which are a function of time period, by changes in the economic or institutional environments that occurred over the sample interval, or by omitted firm size and industry effects (Watts and Zimmerman, 1990; Clinch, 1995; Wong and Wong, 2001).

6.2. Limitations

The study’s empirical results show that, consistent with Hypothesis H3, the goodwill accounting standard AASB1013 has led to a significant reduction in the strength of the association between acquired goodwill and the bid premium. Some limitations of this study should be noted.

The way in which acquired goodwill is measured in this study means that the variable only includes the extant going-concern goodwill of the target and some (but not all) of the synergistic goodwill arising from the takeover. This variable definition is used so as to prevent an automatic positive correlation between acquired goodwill and bid premium which

occurs because both variables are a positive and increasing function of the offer price (Choi and Lee, 1991). However, it also means that (i) acquired goodwill takes on a new and different meaning from that used in accounting standards (which may create a certain amount of confusion); and (ii) acquired goodwill may include some part of the unrecorded target asset base which is later re-classified, after the acquisition, as identifiable intangible assets and thus avoids some of the adverse financial statement effects imposed by AASB1013 (Goodwin and Harris, 1991; Wines and Ferguson, 1993). In other words, because acquiring firm managers can reclassify part of acquired goodwill as identifiable intangible assets, not all of what is classified in this study as acquired goodwill is actually required to be accounted for in accordance with the provisions of AASB1013. That is, the real option to freely choose the accounting policy for acquired goodwill, as at the date of the acquisition, which this study claims was taken away by the provisions of AASB1013, may in fact still remain.

The incorporation of a strict sample selection criteria, and incomplete data sources, in particular for the financial statement data, mean that the number of takeovers included in the study's final sample is as low as 261, being 127 in the pre-AASB1013 period, and 134 in the post-AASB1013 period. The total number of announced takeovers over the period 1 July 1984 to 30 June 1997 is 1,383 proposed deals, and yet only 147 of these (which is a very low 11% of the total of 1,383) are included in this study's final sample.¹⁰⁹ It is not immediately clear as to what extent the results of this study can be immediately and directly generalised to the entire population of takeover deals, initiated and completed throughout the sample period, which involve ASX listed target firms.

¹⁰⁹ In addition to this, several years are heavily under- and over- represented proportionally in the final sample, as merger activity tends to occur in waves or cycles over time.

6.3 Future Research

First and foremost, future research could attempt to more accurately measure acquired goodwill so that it incorporates more completely the synergistic goodwill created by the acquisition. Then, the measure of acquired goodwill adopted would more closely coincide with the way that ‘purchased goodwill’ is presently defined in accounting standards worldwide.

However, some major data limitation and other issues would be encountered if this direction was to be pursued. As stated in earlier chapters, in many cases Australian financial statements do not provide information on the acquired goodwill for each acquisition that occurs in a given year. However, despite this, researchers could extract the *total* acquired goodwill for *all* acquisitions that occur in the year.

While this proposed new variable measurement rule for acquired goodwill and new data collection procedure may be correct in theory, they pose significant difficulties in practice. These are alluded to on pp. 84-85 above, and, in particular, the following statement: “Other problems associated with use of the ‘details of acquisitions’ footnote in the bidder’s post-consolidation financial statements to collect goodwill data are as follows: (a) the fact that ‘goodwill acquired’ is often disclosed only as a total figure for all subsidiaries acquired during the year, rather than being delineated on a per-acquisition basis; (b) for other companies, it is often not clear whether the ‘net assets acquired’ figure, specified in footnotes on a per acquisition basis, is stated before or after re-statement of the identifiable net assets acquired to their fair values; and (c) the problem of spurious positive auto-correlation of acquired

goodwill with bid premium is not avoided (Choi and Lee, 1991, p. 238). In fact, the problem would be exacerbated if goodwill data is taken directly from the bidder's post-consolidation financial statements because these very goodwill numbers are computed using fair value of the purchase consideration exchanged, and the bid premium is also computed using the same number. Choi and Lee (1991, p. 223) also considered this option of collecting goodwill data directly from the bidder's post-consolidation financial statements, but decided that the option is not feasible.”

The possibility of computing acquired goodwill and bid premium for all subsidiaries acquired during a given year would overcome problem (a) outlined in the quote from the earlier chapter made above. However, it would not help to overcome problems (b) or (c).

In addition, these procedures have the following significant additional limitations: Many of the ‘acquired subsidiaries’ listed (for which an acquired goodwill total is computed) may be businesses, rather than subsidiaries, or they might not meet the study's strict sample selection criteria. For example, it may include subsidiaries where a controlling interest of more than 50% of the target's ordinary voting shares was held prior to the bid, otherwise known as a ‘mopping up operation’. If the details of acquired goodwill were not disclosed on a per subsidiary basis, then it would not be possible to subtract the acquired goodwill and bid premium applying to such an acquisition from the respective totals, because they are not specifically identified. I see this as a severe weakness associated with this possible acquired goodwill variable measurement rule and data collection method.

An additional important point in regards data availability issues is referred to in the thesis on p. 84: “There would be difficulties involved in accessing data sources because some bidder firms are unlisted or foreign companies. A bid could only be included in the sample, under this goodwill data collection procedure (i.e., that suggested in the preceding paragraphs), if both target and bidder financial statements are available for the bid in question. This goodwill data collection procedure (if it had been adopted) would lead to a significant reduction in the final sample size, especially for those years in the 1980s where the only financial statement data source is the AGSM Annual Reports Microfiche Series.” This point in relation to data collection issues must be taken into account.

Work could be done relating bid premium to the components of acquired goodwill. This could be done in the same way that Henning, Lewis and Shaw (2000) estimate the valuation implications of the components of acquired goodwill, using the systematic breakdown of acquired goodwill into its component parts as originally modelled by Johnson and Petrone (1998, 1999).

Further attempts could be made to incorporate additional control variables, borrowed from the burgeoning corporate finance literature, into more comprehensive regression equations in the same way that Ayers et al. (2002) used the additional control variables found in Comment and Schwert (1995) and Schwert (2000) to expand the regression model (in terms of the number of control variables) way beyond that which appears in Robinson and Shane (1990). It is especially important to identify tax and regulatory changes that occur at about the same time (chronologically) as changes in mandated accounting standards. They include omitted tax, corporate governance, industrial relations, macro-economic or finance-related variables, as yet

unidentified and not included in the regression model. These variables may also systematically be related to the excess bid premium, and which may be positively associated with the 'accounting effect'.¹¹⁰

It would be interesting potentially to also investigate whether the 1996 amendment to AASB1013, which precludes the use of any systematic amortization method other than the straight-line method, has a systematic impact on the excess bid premium, or upon the strength of the association between acquired goodwill and the bid premium. However, too few companies used a non-straight-line method prior to 1996 (nine in total) to allow for an effective empirical study to be conducted (Brown, 1995; Clinch, 1995; Miller, 1995; Day and Hartnett, 1999-2000; Whittred et al., 2000).

Research could be extended to other countries where changes in mandated accounting methods for acquired goodwill or identifiable intangible assets have taken place (a *time-series study*), or where different mandated accounting standards exist in different accounting regimes (a *cross-sectional study*). To date, cross-sectional studies in this research area (e.g., Robinson and Shane, 1990; Choi and Lee, 1991; Lee and Choi, 1992; Cheng et al., 1997; Ayers et al., 2002) have been the norm rather than time-series studies. Such a research opportunity does presently exist for the UK. Financial Reporting Standard (FRS) 10, issued in 1997 by the UK Accounting Standards Board (UKASB), mandates capitalization and systematic amortization

¹¹⁰ However, some of these variables might require access to the bidder firm's financial statements. All of the control variables computed in this study require access to only the target's financial statement data. Inclusion of control variables requiring access to the bidder's financial statement data would reduce even further (from the very low extant figure of around 10%) the percentage of all proposed and initiated deals which are included in the final sample. Especially in the period up to and including 1993, during which the AGSM Microfiche Series was used as the sole financial statement database, the percentage of deals where both the target and bidder financial statements are both available, expressed as a percentage of all completed deals, remains low.

of purchased (acquired) goodwill, in place of the choice of capitalization with amortization and immediate write-off allowed under SSAP No. 22 (1984, rev. 1989). Approximately five years of post-FRS10 financial statement data are now available in the UK for researchers to utilize. As a result, an empirical study similar to this one could now be performed effectively using UK data.

Lastly, more work on the economic determinants of the acquired goodwill and identifiable intangible assets accounting policy choices should continue to guide and inform researchers as to the expected associations between such key variables of interest as acquired goodwill, time period, toehold, mode of payment, prior stock return, managerial share ownership, and the excess bid premium. Much useful, and important, accounting policy choice research in the acquired goodwill and identifiable intangible assets areas has been performed recently in diverse capital markets such as the UK (Gore, Taylor and Taib, 2000), New Zealand (Wong and Wong, 2001), Singapore (Tan, 2001), and Australia (Chan and Loftus, 2003). It is expected and hoped that this research agenda will continue to flourish in the future. The links between descriptive (experimental) research, capital markets research, and accounting policy choice research have not yet been fully recognized and exploited, especially in the areas of theoretical development, model construction, and hypothesis testing.

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APPENDIX A:

ACCOUNTING STANDARDS TIMELINE

A.1 Accounting for Acquired Goodwill

1987: July

ASRB Release 412: Invitation to Comment Accounting for Unidentifiable Assets (Goodwill) – Key Issues Questionnaire issued for public comment by the then Accounting Standards Review Board (ASRB) and Public Sector Accounting Standards Board (PSASB).

1988: April 18

Approved accounting standard ASRB1013: *Accounting for Goodwill* issued and effective for financial years ending on or after 19 June 1988 in response to comments received on ASRB Release 412

1988: June 30

This is the first financial year end for most Australian listed companies in which the provisions of ASRB1013 first apply

1989: August

ED49: *Accounting for Identifiable Intangible Assets* issued.

1990: August 10

AARF Media Release “Accounting for Identifiable Intangible Assets” states that accounting for identifiable intangible assets is completely covered by accounting standards ASRB1010 and 1021 plus ED49 but not ASRB1013.

1995: December

ASRB and PSASB jointly issued ED68: *Amortization of Purchased Goodwill: Amendments to AAS18/AASB1013* for public comment any time up to and including 15 February 1996. ED68 is a direct response by the Boards to a request by the Urgent Issues Group (UIG) to clarify method(s) of amortization allowed by AAS18/ASRB1013. ED68 sought comment on a proposed move to straight-line amortization only.

1996: June

Revised AAS18/AASB1013 is re-issued jointly by AASB and PSASB to incorporate the amendments of ED68 into the Standard. Straight-line goodwill amortization is now the only permitted method under the revised AAS18/AASB1013. Revised Standard applies to financial years ending on or after June 30 1996.

1996: June 30

This is the first financial year end for most Australian listed companies in which the provisions of the revised ASRB1013 which mandates the straight-line method of goodwill amortization first apply.

**A.2 Fundamental Differences between International Accounting Standard
IAS22 and AAS18/AASB1013 as at 5 November 2002**

Compliance with AAS18/AASB1013 will also ensure compliance with IAS22 as at 5 November 2002 except that the following additional requirements must be satisfied so as to ensure full compliance with IAS22:

1. Where an entity uses a period of amortization of more than five years from the date of acquisition, a justification for the longer period selected must be provided by the entity.
2. AAS18/AASB1013 requires that a discount on acquisition be eliminated fully in the year of acquisition by proportionally reducing the fair value of non-monetary assets acquired until those fair values together reach zero. Any additional discount is to be eliminated immediately by a charge to revenues. Under IAS22, any additional discount is to be treated as deferred revenue and amortized to the profit and loss account over five years, unless a longer period can be justified by the entity.
3. Under AAS18/AASB1013, any assets and liabilities acquired but recognized after acquisition are accounted for by adjusting the goodwill or discount balance. Under IAS22, adjustments made after the first year after acquisition are treated as one-off revenue or expense items.
4. IAS22 requires additional mandatory disclosures by the entity beyond those required by AAS18/AASB1013 of any movements in balances of goodwill, discount and amortization that took place during the year.

A.3 Fundamental Differences between SSAP8 and AAS18/AASB1013

To the extent that Statement of Standard Accounting Practice SSAP8: *Accounting for Business Combinations*, issued by the New Zealand Society of Accountants (NZSA), addresses accounting for goodwill issues, compliance with all of the provisions of AAS18/AASB1013 as at 5 November 2002 will also ensure conformity with all of the provisions of SSAP8 as at the same date. No additional disclosures are required.

A.4 Accounting for Revaluation of Non-Current Assets

1987: May 29

Approved accounting standard ASRB1010: *Accounting for Revaluation of Non-current Assets* approved and applicable for all financial years ending on or after September 30 1987

1991: September

ASRB and PSASB jointly reissued AAS10/AASB1010. The principal amendment in the reissued version was how classes of non-current assets were henceforth to be identified over the economic rather than legal entity in preparation of consolidated accounts. All revaluation increments and decrements were to be on a group basis. Additional disclosure is necessary as to whether computation of recoverable amount involved the discounting of cash flows. Revised standard applies to financial years ending on or after 30 June 1992.

1995: December

ASRB and PSASB jointly issued ED70: *Amendments to the Depreciation and Asset Revaluations Standards* for public comment in the period leading up to 29 February 1996. The exposure draft recommends that entities can revalue on a progressive basis provided that there is a consistent revaluation of all assets in a class within each three-year period. For display, current cost or deprival values can be used.

1996: June

AAS10/AASB1010 reissued to incorporate the amendments of ED70 and to apply for financial years ending on or after 30 June 1996

1999: December

AASB and PSASB issued AASB1041: *Revaluation of Non-Current Assets* to apply for periods ending on or after 1 July 2000. The new Standard replaces the old AASB1010 of the same name. The main change after the issuance of AASB1041 is that either cost or fair value may be used as the basis of asset measurement of a class of non-current assets following first recognition. One important proviso is that where fair value is used, fair values must be updated.

APPENDIX B:

GOODWILL ACCOUNTING TREATMENTS AROUND THE WORLD

B.1 Australia

AAS18: *Accounting for Goodwill* was issued in 1984 by the Institute of Chartered Accountants in Australia (ICAA) and the Australian Society of Accountants (ASA), through the Australian Accounting Research Foundation (AARF), the then research arm of the accounting profession. Under AAS18, purchased goodwill is to be capitalized and systematically amortized to the profit and loss account over a period not exceeding 20 years. Under no circumstances may internally generated goodwill be capitalized. Immediate write-off against equity reserves is never an acceptable accounting policy under AAS18.

ASRB/AASB1013: *Accounting for Goodwill*, issued by the then Accounting Standards Review Board (ASRB), applies legal backing to the accounting requirements of AAS18 for financial years ending on or after 19 June 1988. The accounting requirements of AASB1013 are effectively the same as those of AAS18. The revised AASB1013 requires that the straight-line method of amortization only, rather than any systematic method, be used for financial years ending on or after 30 June 1996.

As a result of executive decisions made by the Federal Treasurer and the Financial Reporting Council (FRC), the body responsible for providing strategic and policy oversight to the AASB, Australia will follow the complete set of International Accounting Standards Board IFRS standards as from 1 January 2005, in both consolidated and parent company accounts (Haswell and McKinnon, 2002). This will include the requirements of the current revised versions of IAS3: *Business Combinations*, IAS36: *Impairment of Assets*, and IAS38: *Intangible Assets*.

B.2 United States

The Accounting Principles Board (APB) standard APB Opinion No. 16: *Business Combinations* (1970) allows pooling-of-interests accounting for genuine mergers-of-equals, where 12 pre-specified criteria are met. Arguably, the most important criterion is that ordinary shares of the acquirer, and not cash, preference shares or debt, have to be the mode of payment for the acquisition. If these twelve criteria are not met, purchase accounting is required for the acquisition.

Under APB Opinion No. 17: *Intangible Assets* (1970), where the purchase method is used, purchased goodwill is to be capitalized and systematically amortized to the profit and loss account, over no more than 40 years. When the APB was replaced by a new accounting standard-setting body, the Financial Accounting Standards Board (FASB) in the early 1970s, APB Opinion No. 17 remained in place, and was not reviewed or amended in any major way.

The current requirements Statements of Financial Accounting Standards (SFAS) No. 141 and 142 (2001), issued by the FASB, ban the pooling method outright in all circumstances. Under the purchase method, amortization of capitalized purchased goodwill balances is now no longer either mandatory or acceptable. SFAS No. 141 and 142 introduce a mandatory annual events-triggered impairments test for new and extant purchased goodwill balances.

B.3 United Kingdom

There are two major sources of accounting regulation presently existing in the UK, namely the Companies Acts and the FRS series of accounting standards. The current version of the Companies Act in place is the 1985 Companies Act, as amended by the 1989 Companies Act. Previous Companies Acts include the Acts of 1948, 1967, 1976, 1980 and 1981. The 1985 Act requires that a firm keeps proper accounting records and that the directors of the company present income statements and balance sheets within a certain time frame after the end of the financial year. There must be an attached audit opinion prepared by an independent public accountant.

The 1981 Companies Act has as a mandated requirement that accounting records must be kept which are sufficiently accurate so as to allow for the preparation of annual accounts which show *a true and fair view* of the financial affairs of the corporation both during the financial year (income statement) and as at the end of the financial year (balance sheet). True and fair view is the overriding principle that governs UK accounting regulation. The 1981 Companies Act implements the European Union (EU) Fourth Directive into UK law. The Fourth Directive specifies the form and

content of financial reports and must be implemented into national law by all of the EU member nations via their Companies Acts.

The Institute of Chartered Accountants of England and Wales (ICAEW) was formed in 1880. It is one of the world's first professional groups to have issued accounting professional and ethical pronouncements, beginning in 1942. The rules and principles historically have allowed for flexibility in practical application, but are considered to be *best practice*.

In 1970, the ICAEW set up an Accounting Standards Committee (ASC), which has the purpose of working in collaboration with industry groups, such as the London Stock Exchange (LSE) and the Confederation of British Industry (CBI), to draft new accounting standards.

An important source of accounting rules historically has been the Statements of Standard Accounting Practice (SSAP) accounting standard series, issued by the ASC. Presently, the Accounting Standards Board (ASB), the replacement body for the ASC, produces and issues mandated accounting standards in the UK. These are known as the Financial Reporting Standards (FRS) series.

Unlike the ASC, the ASB is an independent body. Its membership is made up of volunteers and it is led by a full-time chairman and full-time vice-chairman. A Financial Reporting Council (FRC) is in charge of the overall policy and strategic direction of the ASB.

Statement of Standard Accounting Practice SSAP No. 22 (1984, rev. 1989) allows the option of capitalization and amortization of purchased goodwill, over no more than twenty years, or immediate write-off against equity reserves. Immediate write-off was the preferred method recommended for use in SSAP No. 22. Empirical research indicates that 98% of UK companies used the immediate write-off option in their 1986 annual accounts (Russell, Grinyer, Malton and Walker, 1989).

A very common UK accounting practice over the time period when SSAP No. 22 was in place (1984 to 1997), is the capitalization of both purchased brand names and internally generated brand names (Barwise et al., 1989; Power, 1992; Wines and Ferguson, 1993). The purpose of this accounting practice is to restore deleted equity values on balance sheets with the aim of creating more space under those restrictive borrowing covenants which contain a leverage clause.

In the mid-1990s, Saatchi and Saatchi Plc., with a negative balance of book equity, and Hanson Plc., with a negative balance in the profit and loss reserve, both reinstated purchased goodwill on their pro-forma accounts used to assess conformity with restrictive borrowing covenants (Radebaugh and Gray, 2002, p. 179).

Financial Reporting Standard FRS10: *Goodwill and Intangible Assets* (1997), issued by the Accounting Standards Board, bans the immediate write-off option and mandates capitalization and systematic amortization. Under FRS10, there is a *rebuttable presumption* that the life of purchased goodwill will be no more than 20 years, and so complete amortization of the purchased goodwill balance usually will occur over this time period.

FRS10 states that there could be situations where a life longer than 20 years or an indefinite life can be justified (the rebuttable presumption) and this applies to both purchased goodwill and identifiable intangible assets. Regular reviews need to be conducted to ensure that purchased goodwill is not carried in the books above its *recoverable amount*, as defined in Financial Reporting Standard FRS11.

In practice, between 1997 and 2001, most UK companies used amortization periods ranging from five to ten years, while a significant number of others used an amortization period of 40 years, consistent with the US treatment under APB No. 17 (Radebaugh and Gray, 2002, p. 177).

A revised version of FRS10 provides for an annual impairment test of new and extant purchased goodwill balances, in place of the capitalization and amortization approach (Radebaugh and Gray, 2002, pp. 177-181). This in line with the current acceptable treatment of purchased goodwill in the US under SFAS No. 141 and 142. Immediate write-off of purchased goodwill against equity reserves has not been an acceptable accounting practice in the UK since 1997 (Radebaugh and Gray, 2002, p. 178)

B.4 Canada

Two legal systems presently operate in Canada, the federal system and the provincial systems. Canadian firms can choose to incorporate under either the federal system or provincial systems.

Most federal commercial law is contained within the Canadian Business Corporation Act. There are federal and provincial Acts in existence, which are similar in form and content to the UK Companies Act. Topics covered include maintenance of proper accounting records, so as to allow for the preparation of annual accounts, the form and content of accounting reports, and external auditing.

The Canadian Institute of Chartered Accountants (CICA) is the most active and influential federal professional organization, but in addition to this each individual province also has their own institute. Active committees of the CICA have existed and been highly influential since the 1940s, with their purpose being to promulgate good accounting principles and practice.

The CICA is responsible for setting accounting standards. Canadian government and industry grant financial and moral support to the CICA and hence its standards are considered to be authoritative and binding. The Canadian Business Corporations Act requires financial statements and audit reports to be prepared which conform to the contents of the CICA Handbook, which contains the set of Canadian approved accounting standards.

As at 1999, purchased goodwill is to be amortized via the straight-line method over its estimated useful life, which is not to exceed 40 years (Evans et al., 1999). This continued to be the acceptable accounting treatment under Canadian accounting standards as at 2002, despite the US having switched over to the impairment test model a year earlier (Radebaugh and Gray, 2002, p. 178). Immediate write-off of

purchased goodwill against equity reserves is not an acceptable accounting practice in Canada.

B.5 The Netherlands

The Netherlands Institute of Accountants was established in 1895, largely as a result of and in response to the formation of the ICAEW in the UK in 1880. The UK accounting principles established by the ICAEW were borrowed and, where applicable, used as the basis for Dutch accounting in its formative years.

The Registered Accountants Act (RAA) was proposed in 1962 and became a part of Dutch law in 1967. It united all the extant professional accounting bodies under the banner heading of the Netherlands Institute of Registered Accountants (NIVRA).

In 1970, the Act on Annual Accounts of Enterprises was issued and made external auditing by a registered practicing accountant mandatory. Before this, the only rules relating to financial statements were contained in the 1929 Code of Commerce. A Committee, established by The Board of the Netherlands employers' organization, compiled a detailed report on accounting issues which was publicly released in 1955.

Generally, the standard of Dutch accounting has been regarded as being universally high, due to the strength of accounting education in the country and the historically significant input to accounting debate of major Dutch companies, such as Royal Shell and Philips. Royal Shell is the largest world corporation not domiciled in the USA. It is important to note that the universally recognized quality of Dutch accounting is

high, despite the fact that paradoxically no formal set of national accounting standards exists.

Despite the lack of a national accounting standards series in the Netherlands, the NIVRA has been influential over a number of years in compiling reports which discuss accounting issues, especially with the viewpoint of assisting practitioners in practical ways to implement good accounting practice into their regular operations. Presently, the Council for Annual Reporting, a committee of accounting profession representatives, is in the process of drafting a set of accounting principles.

Annual reporting requirements for companies are contained in Title 9 of Book 2 of the Civil Code. This Code also incorporates the EU Fourth Directive into Dutch law. The Enterprise Chamber of the Court of Justice in Amsterdam is the body which legally enforces all of the accounting laws.

Under Dutch GAAP as at 1999, purchased goodwill can be capitalized and is to be amortized over a maximum time period of five years or, if justifiable, a longer time period (Evans et al., 1999). Prior to 1998, most large companies in the Netherlands use the immediate write-off against equity reserves method, in conformity to the popular treatment used in the UK (Radebaugh and Gray, 2002, p. 179).

B.6 Germany

Laws were passed in 1931 via an amendment to the Commercial Code, which made the audit of large German companies mandatory. The German Stock Corporations Law of 1937 importantly included similar mandatory external audit provisions.

Accounting in Germany is primarily governed by law and not by a set of national approved accounting standards. Section 149 of the 1965 German Stock Corporations Law makes it clear that financial statements should be prepared in accordance with the principles of proper accounting.

Before 1965, the most relevant statutes as far as accounting is concerned are the German Stock Corporations Law of 1937, the German Stock Corporation Law of 1965 (the 1937 law revised) and a 1969 Law Concerning the Accounting of Certain Enterprises and Companies with Affiliates (known as the Publicity Law).

The 1965 Revision requires statements on the valuation bases adopted in the financial statements as well as the preparation of mandatory consolidated statements. The 1965 Companies Act includes a model balance sheet and a model income statement, along with explanations, thus indicating that the pressure for uniformity in German accounting is high.

The 1969 Disclosure Act extends reporting requirements to include large subsidiaries of foreign corporations, some wholly-owned subsidiaries of foreign corporations and some wholly-owned subsidiaries of local corporations.

The 1965 German Stock Corporation Law and the 1969 Disclosure Act taken together represent a step forward by shifting the focus from meeting the needs of creditors to meeting the needs of shareholders. By requiring disclosure of valuation bases, the once common German accounting practice of maintaining “secret reserves” has now been effectively banned.

True and fair view is not a major over-riding accounting principle in Germany as it is in the UK. This is reflective of both the historically important German view that financial statements are designed primarily to meet the needs of creditors and the importance of black-letter company law in Germany. When the phrase is used in Germany, it just refers to the formal observance of the accounting laws. Book and tax accounting must conform if a company wants to take advantage of tax-related benefits, such as accelerated depreciation.

1985 saw the implementation of An Accounting Directive law, which incorporated the Fourth, Seventh and Eighth EU Directives. The Commercial Code has also been updated to accommodate the EU Directives.

As at 1999, multi-national corporations were permitted to use IAS standards as the basis for preparation of their consolidated accounts. Daimler-Benz and Deutsche Telekom have their shares listed on the New York Stock Exchange and produce the mandatory annual reconciliation to US GAAP.

Under German GAAP as at 2002, capitalized purchased goodwill must be amortized over a maximum five-year period, or the period over which the company will gain fully all the economic benefits from the acquisition. The tax law allows a maximum of fifteen (15) years, so this is the amortization period most commonly used by German companies. An immediate write-off against equity reserves is allowed (Evans et al., 1999, p. 40; Radebaugh and Gray, 2002, p. 178).

Capitalization of purchased goodwill without amortization is historically a common accounting practice in Germany (as in France), but after 1985, with the implementation of the EU Seventh Directive into German law, this accounting policy is no longer acceptable (Radebaugh and Gray, 2002, p. 178).

As in the Netherlands, the immediate write-off against equity reserves method is used by many large German companies prior to 1998, but its use has since become much less widespread (Radebaugh and Gray, 2002, p. 179). Immediate write-off against equity reserves remains an acceptable method for companies domiciled in EU member nations, under the EU Seventh Directive.

However, the EU is committed to wholesale adoption of the full set of IASB standards in consolidated accounts of groups domiciled in EU member nations as from 1 January 2005 (Haswell and McKinnon, 2002).

B.7 France

As a full EU member, France adopted the EU Directives into their national legislation in 1986. Before this time, consolidated financial statements are not mandatory and many alternative accounting policies and presentation styles are prevalent in French financial statements.

The National Accounting Plan has been the major source of accounting regulation since 1942. More significant changes have taken place in the period since 1996. Two major accounting regulatory bodies now exist, the National Accounting Council and the National Regulation Committee.

The National Accounting Council issues opinions and recommendations on topical and pressing accounting issues. The Accounting Regulation Committee, created by the Law for the Reform of Accounting Regulations (6 April 1988), sets prescribed rules, with complete regulatory backing.

Commission des Opérations de Bourse (COB, equivalent to the Securities and Exchange Commission in the US) made a pronouncement in 1995 that, since no international standards had been officially applied at the national level in France, the French national standards remain binding and applicable.

If US GAAP or IASB standards are being used in the international accounts of French multi-national corporations and areas of incompatibility with French accounting exist, then two sets of accounts must be produced (COB, 1995, p. 105). At a later point, the

COB has clarified this by stating that a Note to the Accounts can be included, which states that the accounts prepared in accordance with French standards are compatible with US GAAP or IASB standards as well (COB, 1998, p. 3).

The Law of 6 April, 1998 allows French companies not to produce two sets of accounts (Article 6), provided that they follow IASB standards, there is translation into the French language, and there is formal approval by the CRC (Accounting Regulation Committee) and EU Rules. This Law is now less relevant as the CRC will be following the EU move to full adoption of IASB standards in French consolidated accounts by 1 January 2005 (Haswell and McKinnon, 2002).

Interestingly, between 1998 and 2000, for various reasons there is a major shift by French companies away from use of IASB standards and towards the use of US GAAP. Eight French groups stop using international standards in conjunction with the French national standards in their 1999 accounts, while six further French groups follow in 2000.

As at 2002, French Accounting Standards require that purchased goodwill be capitalized and amortized over its useful economic life (no maximum time period is given). As in Sweden and Norway, immediate write-off against equity reserves is not presently permitted under the relevant French Accounting Standard (Radebaugh and Gray, 2002, p. 178).

The ban on the immediate write-off of purchased goodwill against equity reserves indicates that the French accounting standard reduces the range of acceptable

accounting alternatives for purchased goodwill to less than those allowed under the EU Seventh Directive.

Capitalization of purchased goodwill without amortization is a common accounting practice historically in France (as with Germany), but after 1986, with the implementation of the EU Seventh Directive into French law, this accounting policy is no longer acceptable (Radebaugh and Gray, 2002, p. 178).

B.8 Japan

Initially, the first accounting regulations are contained within the 1890 Commercial Code. The government in Japan has always been the most important influence over the format and the content of accounting reports.

In the immediate post-war period, after Japan's defeat by the Allied forces in World War Two, the US occupier provisional government set up a Securities Exchange Law in 1948 and an Americanized tax law in 1951.

The Ministry of Finance is the major rule-maker, while the Japanese Institute of Certified Public Accountants (JICPA) plays a comparatively minor role. The JICPA was created by the 1948 CPA Law, but is not especially large or active compared to professional accounting bodies in most of the other developed nations. The JICPA runs under the express supervision of the Finance Minister.

A foundation called Corporate Finance Research Institute was set up in 1990, its brief being to improve the quality of financial reporting.

Limited stock companies (KK) in the present era must follow the Japanese Commercial Code and provide financial statements for each fiscal year. Ministerial orders (MOS) must also be followed in relation to the format and content of the balance sheet and profit and loss statement. MOS were first issued by the Justice Ministry in the early 1960s and have been updated. All tax rules must also be used for financial reporting purposes. The tax laws draw extensively upon the provisions of the Commercial Code.

Disclosure requirements of the Justice Ministry via the Japanese Securities Exchange Law (SEL) also apply for listed companies. Certain statements pertaining to new debt and equity issues have to be filed with the Finance Ministry.

The Business Accounting Deliberation Council (BADC) is the primary authoritative source for Japanese GAAP. These are contained within the Statements of Financial Accounting Standards (SFASs) series, which are issued by the BDC. The Council consists of 30 members selected by the Finance Ministry, who are all considered to be accounting experts.

Under Japanese GAAP as at 1999, purchased goodwill, if it is capitalized, must be amortized, usually over a five-year period (Evans et al., 1999, p. 43). As at 2002, the maximum stated amortization period under Japanese GAAP is twenty (20) years (Radebaugh and Gray, 2002, p. 178). Immediate write-off of purchased goodwill

against equity reserves is not an acceptable accounting policy in Japan (Radebaugh and Gray, 2002, p. 178).

B.9 Denmark

Accounting regulation has been based upon Danish Accounting Standards since 1988. The European Union (EU) Fourth and Seventh Directives have been duly incorporated into the Financial Statement Act by the Danish Government. Denmark is a member of the European Union.

Consistent with the EU Seventh Directive, purchased goodwill may be either written-off immediately against equity reserves, written-off immediately through the profit and loss account or capitalized and systematically amortized over its useful economic life (LBK 788 Section 17; cf. Articles 19, 30, 31). If the life used exceeds five years, the reason must be explained in the Notes (section 36). Thus, the goodwill accounting options permitted by the EU Seventh Directive are in place and applicable in Denmark as at the time of writing (31 January 2005).

As a member of the EU, Denmark will adopt the IASB set of standards in full for consolidated accounts from 1 January 2005 (Haswell and McKinnon, 2002).

B.10 Norway

The primary source of accounting regulation existing in Norway is the Accounting Act of 1998 (Rekneskapslovaav17, Juli 1998 No. 56). Norwegian Accounting

standards have been published since 1990. There has been only a partial implementation to date of the EU Fourth and Seventh Directives.

Section 5-7 of the Accounting Act has been applicable since 1999. This states that purchased goodwill has to be capitalized and amortized over its useful economic life. If amortized over more than a five-year period, the reason for using a period of more than five years should be disclosed (Section 7-14). Information about purchased goodwill must be provided for each business combination. As a result, it can be concluded that goodwill accounting regulations in Norway are more restrictive than generally allowed by the EU Directives.

Internally generated goodwill cannot be recognized, as recognition of this item on the balance sheet would not be consistent with a transaction-based accounting framework (Section 4-1).

B.11 Sweden

Accounting in Sweden is governed by The Accounting Acts of 1976, 1980 and 1995. Being a full member of the EU, Sweden has implemented the Fourth and Seventh Directives in their entirety into Swedish accounting legislation. Swedish Accounting Standards also exist.

Swedish Accounting Standard RR! states that purchased goodwill must be capitalized and amortized over its expected useful life. This life must not exceed five years, unless special circumstances indicate that a longer life would be appropriate. In no

circumstances can the expected useful life be more than twenty (20) years. Internally generated goodwill may not be capitalized.

There is a ban on the immediate write-off of purchased goodwill against equity reserves. Swedish accounting, like accounting in Norway, is more restrictive in the options that it allows for purchased goodwill than the EU Seventh Directive.

These three key accounting treatments regarding maximum amortization period (20 years), recognition of internally generated goodwill (not allowed) and immediate write-off against equity reserves (not allowed) remain in force and applicable in Sweden as at 2002 (Radebaugh and Gray, 2002, pp. 177-178).

Prior to the passage of Swedish Accounting Standard RR1, many multi-national Swedish corporations (MNCs), along with those in France, Germany, Italy and Switzerland, adopted the then US mandatory treatment of a 40 year maximum amortization period for purchased goodwill (Radebaugh and Gray, 2002, p. 177), with a prominent example of a Swedish MNC which adopted this accounting treatment being Electrolux. The 40-year maximum amortization period is no longer acceptable under Swedish Accounting Standards, with 20 years being the prescribed maximum.

As a member of the EU, Sweden will adopt the IASB set of standards in full for consolidated accounts from 1 January 2005 (Haswell and McKinnon, 2002).

B.12 Switzerland

The Swiss capital market is growing in status, importance and significance and many Swiss companies are raising funds internationally. Traditionally, Swiss accounting is conservative and relies on secret reserves.

As in Germany, company law and tax rules determine the form and content of accounting reports. However, unlike Germany, there have been no significant developments in accounting practice which have taken place in recent times which curtail the practice of maintaining secret reserves. Mandatory annual financial statements are required to be produced only by public listed companies, banks, railways and insurance companies.

The EU Fourth and Seventh Directives have been fully implemented into the company law. An Accounting Standards Board does exist, which has the overall objective of improving financial reporting practice.

The Swiss Commercial Code (Code of Obligations) sets out the fundamental principles of accounting practice. There is an orientation of creditor protection. The most important accounting concept in the Law is that share capital must be maintained in nominal terms. Secret reserves do exist due to the fact that assets cannot be valued at an amount above their historic cost.

The 1992 reforms aim to expand the level of shareholder protection and improve the quality and quantity of information disclosure. Significant major developments

include mandatory consolidated accounts for listed groups, mandatory annual accounts for listed public companies, and for large private companies, and voluntary revaluations of land and buildings.

1994 saw the establishment of an Accounting Standards Board and a Foundation for Accounting and Reporting Recommendations by the Swiss Institute of Certified Accountants. The Accounting Standards Board is responsible for making recommendations and pronouncements on major Swiss accounting issues.

Consistent with the provisions of the EU Seventh Directive, purchased goodwill in Switzerland may be either written-off immediately against equity reserves, written-off immediately through the profit and loss account or capitalized and systematically amortized over its useful economic life (Radebaugh and Gray, 2002, p. 178).

As a member of the EU, Switzerland will adopt the IASB set of standards in full for consolidated accounts from 1 January 2005 (Haswell and McKinnon, 2002).

B.13 Italy

In Italy, the predominant influences on accounting regulations are the Civil Code (company law) and the taxation rules. The influence of these sources on accounting regulation historically has been very similar to the patterns evident in France, Belgium and Spain. There was a late adoption of the EU Fourth and Seventh Directives into company law in 1991.

The legal requirements for the publication of annual accounts for listed companies date back to 1882, and there were important amendments to the Civil Code in 1942 and 1974. Since the annual financial statements are also used as the basis for taxing by the state, there has been an historical tradition of conservatism in Italian accounting.

An additional source of accounting regulation is the Commissione Nazionale per le Società e la Borsa (CONSOB), the government securities regulator, which was established in 1974. Additional CONSOB requirements include mandatory audit by an approved audit firm, plus the filing of consolidated group accounts. The EU Fourth and Seventh Directives have changed the nature of Italian accounting, with the implementation of the *true and fair view* requirement.

There are two professional accounting bodies presently existing in Italy, namely the Consiglio Nazionale dei Dottori Commercialisti and the Consiglio Nazionale dei Ragionieri. These bodies have recommended the use of IASB standards for issues not covered by the local regulations.

Consistent with the provisions of the EU Seventh Directive, purchased goodwill in Italy may be either written-off immediately against equity reserves or capitalized and systematically amortized over its useful economic life (Radebaugh and Gray, 2002, p. 178).

As a member of the EU, Italy will adopt the IASB set of standards in full for consolidated accounts from 1 January 2005 (Haswell and McKinnon, 2002).

B.14 Brazil

The first Commercial Code appeared in Brazil in 1850, while the 1976 Corporations Law contains the major regulatory provisions that relate to accounting. The Comissao de Valores (CVM), the securities regulator, produces a set of accounting pronouncements that apply to listed companies.

The local stock-market is one of the largest and most influential in the entire Latin American region, and many Brazilian companies are listed in the US.

The accounting profession in Brazil is managed by The Institute Brasileiro de Contadores (IBRACON). The Consellio Federal de Contabilidade, or Federal Accounting Council, produces a set of accounting standards. These are the major source of input to the CVM and, once approved, become applicable to and mandatory for all listed companies.

Purchased goodwill in Brazil must be capitalized and systematically amortized over its useful economic life (Radebaugh and Gray, 2002, p. 178). There is a ban on the immediate write-off of purchased goodwill against equity reserves.

B.15 People's Republic of China (PRC)

There are some signs of advanced accounting and auditing developments in China at least as far back as the Shang Dynasty (1500 to 1000 BC).

The Communists defeated the Nationalists in the Chinese Civil War, which immediately followed World War Two, and the People's Republic of China (PRC) was formed by the Chinese Communist Party in 1949.

After the death of former Communist Party Chairman Mao Zedong in 1976, substantial efforts were put in place to open up and reform the economy. The “open-door policy” was initiated in 1978 as a means to increase the level of foreign direct investment into the PRC.

With the formation of the PRC in 1949, the economy moved to a centralized socialist model, with accounting being re-designed to serve as an instrument of governmental planning and control. The centralized control and planning oriented accounting practices of the then Soviet Union were imported wholesale into China.

Following the introduction of the open-door policy in 1978, substantial accounting reforms also took place. The Accounting Law of 1985 grants the Ministry of Finance (MF) complete control over all accounting rules, which includes accounting standards. The Department of Administration of Accounting Affairs inside the MF is responsible for producing accounting standards.

With effect from 1993, the MF issued *Accounting Standards for Business Enterprises*, a form of accounting conceptual framework, which has since been used to guide the development of a set of Chinese accounting standards. Also in 1993, the MF hired Deloitte Touche Tohamtsu International as an external consultant with the brief of

developing a set of Chinese national standards as part of a long-term project. Many Chinese companies issuing only B-shares, which can be issued only to foreigners, are already using International Accounting Standards Board standards.

The IASB series of standards will forge the basis for the next set of Chinese accounting standards, but they will be adapted to suit local conditions. There has been significant public input into the draft standards, the first of which covered Related Party Transactions and Disclosures (1997).

The Accounting Society of China is a body providing input to the MF. The Chinese Institute of Certified Public Accountants (CICPA) was formed in 1988 and became a full IASB member in 1997.

B.16 Hungary

Hungary is an East European country, formerly run as a Soviet style socialist planned economy. A major event in its recent history was the Soviet-backed defeat of the Hungarian Uprising in Budapest in 1956, at which time many refugees and political dissidents left the country. Since the New Economic Mechanism (NEM) was passed in 1968, there has been a gradual movement away from a totally planned economy to a system based in part upon the profit motive and efficiency, and these have slowly increased in importance as national goals and values.

The late 1980s saw a more rapid movement towards a genuine free market economy, building upon the initial impetus provided by the NEM. The economy experienced a

no-growth phase in the early 1990s but Hungary has since been transformed into a bona fide East European economic success story.

The Act of Public Finance passed in 1950 by the Ministry of Finance (MF) has come to dominate the national economic life. The Act is designed with the overall aim of contributing to improved economic efficiency and indirectly to social stability and cohesion.

Every Hungarian firm has a “controller” (chief accountant), who plays an extremely important role in the organization by monitoring its financial affairs and reporting directly to the MF. The controller can even be regarded as the MF’s representative within the company, and is expected to follow up on fraud cases and duly report these to the authorities. A quarterly financial report is given to the company general manager as well as to the MF. The controller and general manager of every Hungarian company are both required to sign off on the submitted balance sheet to confirm its reliability and authenticity.

The Association of Hungarian Auditors was formed in 1988 and has since commenced issuing professional and ethical pronouncements. A Law of Accounting was issued, effective 1992, as an additional source of accounting regulation.

A National Accounting Committee, formed by the MF, will address any outstanding accounting issues not already dealt with by the Law of Accounting. The Hungarian representative to the IASB is presently the Chamber of Hungarian Auditors.

B.17 Mexico

Mexico is a nation which has significant proved mineral, petroleum and natural gas reserves. Its aim in recent times has been to transform itself from a mining and agricultural nation into a diversified modern industrial economy. Mexico is presently a part of the North American Free Trade Agreement (NAFTA) and signed a free-trade pact with Chile in 1991. It has benefited economically in recent times due to its geographical position immediately to the south of the US border.

Mexico Stock Exchange listed companies, as well as other companies which meet pre-specified size and public profile criteria, must be externally audited by an independent public accountant. A complete set of company financial statements must be published in the *Financial Gazette*.

A set of Mexican accounting standards has been produced and issued by the Accounting Principles Commission of the Mexican Institute of Public Accountants (MIPA). The Mexican Institute of Public Accountants has around 12,000 members as at 1999 (Evans et al., 1999). The Accounting Principles Commission of the MIPA incorporates members from various industry groups plus members from the accounting profession of Mexico.

The Mexican accounting standards draw heavily upon US GAAP, but are less comprehensive in nature and tend not to go into as many specifics. Mexican companies must also produce inflation-adjusted financial statements, which is a natural result of the high level of inflation that has historically been a feature of the

Mexican economic experience. Mexican companies have become experts at the development of practical inflation-adjusted accounting systems.

B.18 Nigeria

Nigeria remained a British colony until 1960, after which date it gained its full independence. With 95 million people at present, it has the highest population of any of the African nations. A military government was in place between 1966 and 1979. Outside this time period, the model of government has been based upon a US-style presidential system.

The economy of Nigeria historically has been dominated by agriculture. Oil has also been a major input to governmental revenues and export earnings, especially in more recent years. Foreign direct investment has been static for a long time, largely as a result of the government's nationalistic economic policies.

The Companies Act of 1990 is the governing source of company law and accounting regulation. According to the Companies Act, proper accounting records must be kept so as to allow for the preparation of annual financial statements which present a *true and fair view*. Schedule 8 of the Companies Act provides a pro-forma balance sheet and income statement. The Securities and Exchange Decree of 1988 imposes additional requirements upon companies planning new issues of equity and debt securities. A further set of rules is imposed by the Nigerian Stock Exchange on stock exchange listed companies.

The Companies Act prescribes that the annual set of financial statements must be externally audited by an independent auditor. The auditor must sign off on the true and fair statement and a statement that indicates conformity with the accounting provisions of the Companies Act, which includes Schedule 8. All external auditors must be members of the Institute of Chartered Accountants of Nigeria.

Statements of Accountancy Standards are issued by the Nigerian Accounting Standards Board. The Nigerian Accounting Standards Board is a full member of the IASB. The accounting standards are mandatory for Institute members and significant departures must be noted in the Notes to the Accounts. Nigerian standards draw heavily upon IASB standards, US GAAP and UK GAAP, which is reflective of the major historical sources of influence upon Nigeria's economic life.

Primary Sources: For the United Kingdom, Canada, the Netherlands, Germany, Japan, People's Republic of China, Hungary, Mexico and Nigeria, Evans, Taylor and Rolfe (1999); for Denmark, Norway and Sweden, Joachim Hoegh-Krohn and Knivsfla (2000); for Switzerland, Italy and Brazil, Radebaugh and Gray (2002) and for France, Stolowy and Ding (2003). Secondary sources for all of the countries are Evans et al. (1999), Radebaugh and Gray (2002) and as indicated in the text